THE BUILDER

VOL. XCVII.—No. 3480. OCTOBER 16, 1909.

Contents.

PAGE

MODERN ARCHITECTURAL DEVELOPMENT 401
COMMONS AND THE DEVELOPMENT BILL..... 402
NOTES 403
THE ARCHITECTURAL ASSOCIATION 404
THE INSTITUTE OF BUILDERS 408
CHAPEL OF THE PYX, WESTMINSTER ABBEY..... 410
THE LONDON COUNTY COUNCIL 411
ARCHITECTS' TECHNICAL BUREAU..... 411
ARCHITECTURAL SOCIETIES..... 411
MEETINGS 412
THE GRADIOGRAPH 412
COURT OF COMMON COUNCIL..... 412
FIFTY YEARS AGO 412

ILLUSTRATIONS:—
THE NEW NAVE, HEXHAM ABBEY, NORTHUMBERLAND 412
DEPTFORD BRANCH LIBRARY 413
DESIGN FOR MODELLED LUNETTE 413

CIVIL AND MECHANICAL ENGINEERS' SOCIETY 413
THE ASSOCIATION OF MUNICIPAL AND COUNTY ENGINEERS 414
APPLICATIONS UNDER THE LONDON BUILDING ACTS, 1894 TO 1908 417
COMPETITION NEWS..... 417
BOOK RECEIVED 418

CORRESPONDENCE:—
ADVERTISING BOARDS..... 418

LONDON AND PROVINCIAL BUILDERS' INFORMATION CENTRE 418
LONDON COUNTY COUNCIL EDUCATION COMMITTEE 418
LONDON AND DISTRICT BOROUGH COUNCILS 418
MASTER BUILDERS' ASSOCIATIONS, ETC..... 418
PROJECTED NEW BUILDINGS IN THE PROVINCES .. 418
METROPOLITAN ASYLUMS BOARD 419
METROPOLITAN WATER BOARD..... 419
GENERAL BUILDING NEWS..... 419
STAINED GLASS AND DECORATION 420
MISCELLANEOUS 420
PATENTS 420
LIST OF COMPETITIONS, CONTRACTS, ETC., OPEN .. 421
SOME RECENT SALES 423
PRICES CURRENT 424
TENDERS 425

SUPPLEMENT:—
REVIEWS OF BOOKS.
R. Unwin's "Town Planning in Practice: an Introduction to the Art of Designing Cities and Suburbs"; A. du Cerceau's "French Châteaux and Gardens of the XVIth Century: Reproductions of Contemporary Drawings (hitherto unpublished)"; F. Lenygon's "The Decoration and Furniture of English Mansions During the XVIIth and XVIIIth Centuries"; P. A. Wells and J. Hooper's "Modern Cabinetwork, Furniture, and Fitments"; A. L. Frothingham's "The Monuments of Christian Rome, from Constantine to the Renaissance"; F. W. Woodhouse's "The Churches of Coventry"; H. H. E. Craster's "A History of Northumberland," Vol. IX.; H. H. Statham's "The Organ and its Position in Musical Art"; C. A. Webb's "Valuation of Real Property: A Guide to the Principles of the Valuation of Land and Buildings, etc., for Various Purposes"; C. D. Holley's "The Lead and Zinc Pigments"; J. C. Smith's "Oxide of Zinc: Its Nature, Properties, and Uses"; M. F. Cahill's "The Householder's Duty Respecting Repairs."
MAGAZINES AND REVIEWS.

Illustrations.

NEW NAVE, HEXHAM ABBEY. MR. TEMPLE MOORE, F.R.I.B.A., ARCHITECT.

SELECTED DESIGN FOR DEPTFORD NEW BRANCH LIBRARY. MESSRS. CASTLE & WARREN, ARCHITECTS.

DESIGN FOR MODELLED LUNETTE IN ART GALLERY. BY MR. W. H. WRIGHT.

Illustration in Text.

PAGE
DEPTFORD BRANCH LIBRARY: ALTERNATIVE PLAN 413

Modern Architectural Development.

THE complaint from time to time made by architects that the general public neither knows nor cares anything about the Mother of all the Arts often strikes one as being but the current cant of the profession. Yet, like all cant, the statement is hardly untrue; it is just amorphous, and stands in need of a careful process of crystallisation before it can have appreciable value.

It is well known that once upon a time architecture was one of the polite arts, and was studied by every gentleman who pretended to a liberal education; but that was in the XVIIIth century, when the general condition of society as well as that of building was very different from what it is to-day. Since that time architecture has entered an epoch of transition, the greatest and most far-reaching perhaps that has ever occurred within the range of its history. A bewildering multitude of anomalies and complexities was the inevitable result; uncertainty of taste caused a kaleidoscopic succession of changing fashions; while the exacting requirements of utility and financial economy seemed to be ever set against all æsthetic notions of architecture. Naturally such a period was beyond contemporary comprehension, and when the amateur found himself hopelessly perplexed, it was only to be assumed that his interest in the art would decline.

The transition was a result of that tidal wave of general progress for which the XIXth century is so remarkable, and whose immediate effect upon architecture lay in new conditions of planning, and in a host of purposes that demanded many new types of building quite different from any that had previously existed. Two of its important contributing forces also, the Romantic revival in literature and the advancing science of engineering, had respectively a special influence in the establishment of the Gothic revival (and the Greek revival, too, to a limited extent), and in the introduction into building of the new structural factors, iron and concrete. Altogether it may be taken that three influences came into play—utilitarian, æsthetic, and structural, as they may conveniently be termed. They of course overlap considerably, and it is often impossible exactly to define where one begins and another ends; but in the main there are certain broad developments that are characteristic of each. Utility alone, for instance, has determined the appearance of our railway stations; æsthetics have played a prominent part in the design and disposition of such a building as the Law Courts; and in the modern warehouse, with its extremely slight piers and broad windows, the influence of construction may be seen undiluted.

Roughly speaking, it may be said that the majority of the new types of architectural composition that have come into vogue are the result of sheer practical necessity. In the XVIIIth century it was otherwise. Composition was then almost entirely an external affair, following always two or three stereotyped forms, and it mattered not at all how cramped and inconvenient were the offices of a country mansion so long as its serene and self-complacent symmetry remained undisturbed. Sometimes the kitchen wing had to balance the chapel, and often recourse had to be made to the device of blank windows to overcome a difficulty in planning; but such anachronisms never offended the æsthetic conscience of the day. The utilitarian demands of the XIXth century rendered rule-of-thumb composition no longer possible. The old symmetrical manner of grouping had to go by the board; but it is interesting to observe that the new forms that have taken its place are again symmetrical. In school building, for instance, which has been carefully studied for the past half-century, and entirely from the practical point of view, the general type is that of a central hall, with classrooms arranged symmetrically about it, the whole forming a kind of group quite unlike anything that had existed before. Much the same may be said of hospital design; and here a central administrative block, with four radiating wings containing the wards, as is seen at University College Hospital, is a not uncommon type. A study of French and American railway stations, too, will reveal other new types of symmetrical composition, in which advantage is generally taken of the great station roof to form the central feature in the scheme, but unfortunately the great majority of English stations boast no pretensions to architectural merit.

During the past century the subject of architectural æsthetics has become a very difficult and intricate one, but with the first changes in taste the artistic public was well enough able to keep pace. The Palladian manner of the XVIIIth century, governed as it was by a code

of rules as exact as the formula for Augustan drama, had been well understood. After this the Greek revival presented no difficulties, and when the word "Gothic" ceased to imply all that was barbarous and bad, the study of mediæval buildings became the amateur's chief delight. But in spite of all the kindled enthusiasm for Gothic architecture it is curious to observe how persistently absent was the mediæval spirit in all buildings in the revived style. In the early part of the century buildings erected in the Gothic taste often possessed a charm all their own, but these were only so labelled by courtesy. The strictly symmetrical composition, the flat-pitched roof, and the general good proportions were the legacies of the XVIIIth century, while the detail, though by no means always bad, generally betrayed a very superficial knowledge of the work of the Middle Ages. As the century wore on this influence gradually disappeared. Dull books, like Parker's "Glossary" or Rickman's "Gothic Architecture," came to be published, and had a pernicious influence upon art, for not only were they the very negation of the freedom and fancifulness that is the life and breath of all Gothic work, but they also induced an entirely erroneous view of architecture, the one which begins by considering carved ornament and the profiles of mouldings, and often ends there, too.

About the same time (the middle of the century) buildings began much more nearly to approximate to the forms of their mediæval prototypes, but the results were almost always lifeless. The work of the man of real genius, of course, was always distinguished, and sometimes beautiful. A church like St. Mary Abbott's, Kensington, for instance, the work of Sir Gilbert Scott, is quite a fine building; but though its general form is correct enough, it is impossible to find in it the qualities that so appeal to one in the works of the Middle Ages. Ruskin indeed was almost the only man who thoroughly understood mediæval æsthetics. He was able to point out its innermost beauties, but he never seemed quite to realise how wide was the gulf that separated his time from the Middle Ages, and without intending to do so he very clearly demonstrated the impossibility of grafting the practices of XIIIth-century craftsmanship upon the vastly different social conditions of modern times. From the end of the XVIIIth century down to the present day a spirit of restlessness seems to have been undermining all the time-honoured principles of architecture. The Gothic revival meandered gradually through the whole category of architectural styles and wore itself out. By this time the wheel of fashion has completely revolved, and architectural taste is again much the same, though purged of its pedantry, as it was before the age of revivals began. Thus there has been but small definite progress in taste during a period of something more than a hundred years, and indeed the only direct step forward; and this one not without disadvantages, has been the riddance of the too dogmatic rules about design.

But while a great many of the best architects have been wrestling with æsthetics, half-conscious of something out of tune in their art, and of the need for a new style more suited to the changed conditions of life, the influence of the new method of construction with iron and concrete was slowly but surely making itself felt. Here was the real architectural problem of the age and the most important of the three factors at work in the transition. Never before had it been possible to endow buildings with bones. Never before could they have resisted enormous thrusts entirely by the tension of their sinews. The whole system of the new construction differs entirely from that of any previous method of building, and therefore all attempts to combine its full use with the correct interpretation of any historic style of architecture are almost predestined to end in artistic non-success. It is safe to say that in such buildings (and they include the great majority of those erected in towns for commercial purposes during the last sixty years), though many of them are highly meritorious and interesting works, very few will stand in the future among the masterpieces of architecture. Their great achievement is to be found entirely in the strides that have been made in the science of building construction. From the Crystal Palace, finished in 1851, to Messrs. Selfridge's shop is a far cry. During the whole of that period the new construction has been passing through an experimental stage, and though it cannot be said that the perfect type has yet been evolved, the use of iron and concrete is gradually falling into certain stereotyped channels suitable to the various kinds of building. The modern warehouse with its blunt, straightforward expression—lintel upon pier, girder upon stanchion — easily demonstrates the tendency of modern construction to do away with the wall, with continuous support, and to substitute piers; that is to say, to concentrate the support at points. In more purely architectural work, too, the same tendency can be seen. The supports of buildings are again concentrated in piers, decorated to illustrate their function, while all the architectural emphasis in the spaces between is upon the ample decoration of the windows, so that there may be as little apparently unsupported wall space as possible. Before the middle of the present century it seems not unlikely that this new construction will have been thoroughly mastered; and when architects shall have thus gained power over a new technique, a new manner of expression, they will again be able to devote all their energies to artistic creation, and a new and great school of national architecture may again arise.

No school of national art, however, can greatly flourish without the sympathy and support of the nation; and if there is to be fine architecture in England, it must not be because it pleases the fancy of a few to have it, but because it is the desire and pride of the nation. And the surest way to inculcate such a desire is through the medium of education. The value of architecture as an educational factor indeed seems entirely to be overlooked. Apart from its importance to the study of social history, a knowledge of its facts can give a mental training in clearness of thinking and directness of expression that should be of inestimable value.

COMMONS AND THE DEVELOPMENT BILL.

IN our issue of September 25 we drew attention to the necessity of some protection being afforded to commons and open spaces in the compulsory powers conferred by the Development Bill. Clause 19 of the Bill now deals with this question. Subsect. 1 in the first place provides that where any common, open space, or allotment is affected by an order made by the Development Commissioners, the order shall be provisional only, until it is confirmed by Parliament, except where the order provides for a similar area of land equally advantageous to those having rights of common or to the public being given in exchange. The Board of Agriculture and Fisheries is made the authority for determining this question of substitution, and all persons interested are to be given opportunity to raise objections.

This is so far clear, but there are provisos to this clause which involve legislation by reference, and complicate the matter. In the first place, this provision is not to apply to the acquisition of any common land for the purposes of forestry, if reasonable access is granted to the public and the land has not been dedicated to the use of the public and is not a metropolitan common within the terms of the Metropolitan Commons Act, or is not a "common" within the terms of other Acts stated in the Bill.

This provision is also not to apply to land acquired for the construction of a new road or the improvement of an existing road within a rural district, but there is a provision that none of the extra land which the Road Board has power to acquire on each side of a road shall be taken, where that land forms part of a common, open space, or allotment.

The word "common" is defined as including "any land subject to be enclosed under the Inclosure Acts, 1845–1882, and any town and village green"; the expression "open space" means "any land laid out as a public garden or used for the purposes of public recreation and any disused burial ground"; the expression "allotment" means "any allotment set out as a fuel allotment or a field garden allotment under an Inclosure Act."

We have not seen the opinion of the Commons and Footpaths Preservation Society on these clauses, but it is obvious that they necessitate legal advice.

WORCESTER GRAMMAR SCHOOL.—New buildings have been provided for the scholars at the Royal Free Grammar School, Worcester. On the ground floor the extensions provide for a special lecture classroom for physics, and a small room for fifteen boys. There is a new cloakroom having special features, and a classroom has been appropriated for an assistant master's room. Off a new staircase are two new classrooms, and in addition there is an artroom, specially designed with regard to light. Various alterations have also been made to the old buildings. Messrs. Parker & Son have been the architects for the work.

NOTES.

Standardisation.

IN the Presidential address of Professor Henry Adams to the Association of Engineers-in-Charge a general review is given of various attempts at the standardisation of measuring instruments and manufactured products employed in architecture and engineering. The valuable work recently performed by the Engineering Standards Committee naturally prompts some appreciative remarks with which we fully concur. One of the most useful specifications issued by the Committee is that on Portland cement, which, as Professor Adams remarks, appeared at a very opportune time for the benefit of those employing reinforced concrete in building construction. We are glad to notice the suggestion that the exhaustive Report on riveted joints made several years ago by a Committee of the Institution of Mechanical Engineers should be remodelled and issued in practical form for the guidance of designers. Notwithstanding the abundant material in that Report, Professor Adams has found it difficult to formulate therefrom any general standard for his own use, an avowal quite sufficient to account for the oblivion which has overtaken the record of a most elaborate investigation.

Concrete Bridges.

WITHIN recent years concrete has become a serious competitor with masonry in the construction of long-span arches. At least nine concrete arches with spans ranging from 187 ft. to 280 ft. have been built on the Continent and in America. Two other notable bridges in the same material are about to be commenced—one of these for the City of Spokane, Washington, containing an arch of 281 ft. span, and the other for the City of Pittsburg, having been designed with a 300-ft. arch. The Rocky River bridge at Cleveland, U.S.A., with the span of 280 ft., is nearing completion at the present time. Several of the structures to which we refer are reinforced to some extent by steel, others being of plain concrete. Although British engineers have not yet attempted any rivalry with their *confrères* abroad in respect of gigantic concrete arches, it must not be supposed that they have neglected the claims of that material in bridge building. Four or five reinforced concrete arches of nearly 100 ft. span have already been constructed; a fine highway bridge was completed last year at Pontypridd with a centre arch of 117 ft. span, and the new bridge commenced at Kilkenny will have the clear span of 140 ft., this being the longest arch in reinforced concrete hitherto undertaken in the United Kingdom.

Wind and Ventilation.

A PAPER by Mr. H. W. Whitten, read to the American Society of Heating and Ventilating Engineers, deals with the effect of wind on heating and ventilating installations. One noticeable effect during the prevalence of wind is the entrance of air through crevices. This is very familiar, but one more apt to be overlooked is the outflow of warmed air through apertures on the sheltered side of buildings owing to the partial vacuum there established. The author describes some typical tests made for the purpose of throwing light upon this effect. In the case of a school building cited it was found that the average loss of air velocity amounted to 477 ft. per minute. Another school building heated and ventilated by the gravity indirect system, showed an average loss of 20 per cent. velocity from the delivery ducts and an addition of 60 per cent. to the discharge velocity in rooms on the windward side, while rooms on the leeward side exhibited an increase of 30 per cent. in the supply velocity and a decrease of 62 per cent. in the discharge velocity. A still more striking demonstration was afforded by the case of a school building where, after stopping the fan and closing the supply ducts as well as all doors and windows, it was found that the volume of air passing through the discharge ducts was equal to the amount for which the fan and supply ducts had been designed to deliver.

The Sioule Gorge Bridge.

THE railway bridge opened in France this week is a remarkable structure crossing the Sioule gorge at the height of some 450 ft. above the ground. The bridge consists of a continuous girder 40 ft. deep, divided into three spans by two intermediate masonry piers 370 ft. high. After work was commenced in 1901 serious trouble arose owing to subsidence below the foundation of one of the abutments, and considerable delay ensued owing to the modifications thereby rendered necessary. The main span is 470 ft. long, each of the outer spans having the length of 380 ft. The task of constructing isolated masonry piers to the height of St. Paul's Cathedral is a sufficiently onerous undertaking apart from the work of building out the main girders and joining their ends together in mid-air. This bridge demonstrates clearly the daring and executive capacity of French engineers, and fully deserves a high place among the greatest works executed in the present age.

Alterations and Additions, Guildhall.

A SCHEME proposed by the City Lands Committee embraces the clearing and opening up of the crypt to serve as an extension of the museum, the erection of a building containing three stories over the library corridor, and the conversion of some of the vaults into strong rooms for the muniments of the Bridge House Estates. The library corridor forms a communication from the porch (1425–1430) to the City library and museum, which was erected in 1869–72, after designs by Sir Horace Jones. Buildings above and on the sides of the porch, obscuring the south elevation of the Guildhall, were added by the younger Dance. The rooms over the porch, and the upper rooms (since removed) over the corridor of the east wing, formed until 1869 an adjunct of the earlier library built in 1828 by W. Mountague, City Architect. The east crypt, one of the few examples extant of mediæval crypts in London, is coeval with the Great Hall, which was begun in 1411, and fairly completed twelve years afterwards. In its restoration, 1851, by J. B. Bunning, City Architect, an entrance was made on the north side; the staircase was constructed last year. It measures 76 ft. by 45 ft. 3 in.; the average height of the arches above the floor is 13 ft. 7 in. Six pillars, each having four clustered Purbeck half-columns, divide the area into three aisles of equal width; the bays also are equal—three from north to south and four from east to west. The vaulting of the four-centred arches has spandrils mainly of chalk and brick; the rib-bosses are richly carved. The old gateway, of about 1420, of the crypt was brought to light two months ago; it was found in good state, with the door-hinges, and traces of the original steps. A flattened doorway opens into the western crypt which, it is believed, appertained to the former Guildhall, which extended as far as Aldermanbury. The vaulting, much damaged by the Great Fire, was replaced with brick walls and vaults to sustain the floor of the hall. Shortly before his death the late Mr. E. M. Borrajo, librarian and curator, began a rearrangement of the multifarious contents stored in the basement of the museum.

St. Mary Aldermary Church, Queen Victoria-street, E.C.

THE Rector of this church appeals for at least 900*l.* wherewith to repair the parapets and other external stonework, which varies from fine sandstone to Bath and Portland. A rebuilding upon the original site was begun by Alderman Kebyll, who died in 1518; the bell-tower, which adjoins the church at the south-west angle and, with the four turrets, rises to a height of 135 ft., was erected in 1629. The tower escaped from the Great Fire; in 1711 the upper stages were reconstructed. It is said that Wren, in rebuilding the main body of the church, was constrained to follow the former Perpendicular Gothic design in terms of the bequest of 5,000*l.* for that purpose. The clustered columns of the nave arcade carry very flat arches slightly pointed; small shafts on the faces of the clearstory form the springing of the elaborate fan groining of the ceiling, which has a middle line of large and deeply indented circular panels with incongruous ornamentation; the aisle ceilings are similar, but have oval panels, whereof two in the north aisle serve for skylights. The church was entirely restored and refitted by Messrs. Tress & Innes in 1876. Some years afterwards Mr. C. Innes carried out structural repairs, and in 1899 he applied Szerelmy's stone liquid to some of the exterior surface. A demolition in 1839–40 of houses for a widening of Watling-street revealed the north side, consisting for its greater part of the original wall up to a string-course beneath the window-sills.

Weymouth and Melcombe Regis School Competition.

AN architect sends us an advertisement which has appeared in a daily paper, inviting architects within the borough concerned to "tender for the architect's work" in connexion with a new Boys' School for St. Mary's Parish, in the borough of Weymouth and Melcombe

Regis. This is not an invitation to submit competition designs, from which one is to be selected for its merits; it is a barefaced invitation to the architects to "state the percentage which the architect will charge to the committee on the cost of the buildings," and a list is given of eight separate items in the architect's supposed duties, for each of which he is to name his price! We had thought that this kind of proceeding was a thing of the past. The advertisement is signed by "The Clerk to the Committee." Our impression is that it is the result of sheer ignorance, and that having been accustomed to see tenders from builders for lowest prices, they cannot understand the difference between the position of builder and architect. But they ought to be told plainly that their advertisement is an insult to the profession, and that no architect who respects himself would have anything to say to it.

THE ARCHITECTURAL ASSOCIATION:

ANNUAL GENERAL MEETING.

THE annual general meeting of the Architectural Association was held on Friday last week at No. 18, Tufton-street, Westminster, S.W., Mr. Henry Tanner, President, in the chair. There was a large gathering of members present.

Mr. E. Gunn, Hon. Secretary, read the minutes of the last meeting, which were confirmed; and Mr. Maurice Webb, Hon. Secretary, read a list of nominations for membership. He also announced a meeting of the Debating Society on October 15, when a paper is to be read by Mr. E. Greenop on "Competition—Open *v.* Limited," at 7 p.m. He also announced an Exhibition of Sketches in connexion with the Camera and Sketching Club on October 21, at 8 p.m.

The following gentlemen were then elected as members, *i.e.*—Messrs. R. V. T. Sewell, Teignmouth; S. M. P. Sheppard, Adelphi; H. C. Hunt, Richmond; and E. C. Francis, Cheltenham.

The following reinstatements were agreed to—Messrs. Albert S. Tanner, Pelham-place, S.W.; and Vincent Jerome Esch, Calcutta.

On the motion of the President, a vote of thanks was accorded to Mr. James Williams for presenting a water-colour drawing by Girtin.

Prize Distribution.

The President then distributed the prizes and medals as follows:—

G. G. Wornum—A.A. Travelling Studentship, value 25*l.*, and medal.
C. G. Boutcher—Second prize, A.A. Travelling Studentship, value 5*l.*
H. F. Murrell—A.A. Essay prize, value 10*l.* 10s., and silver medal.
W. J. Durnford—Banister Fletcher Bursary, value 26*l.* 5s., and silver medal; book prize for first place, Advanced Physics.
L. M. Gotch—Architectural Union Company's prize, value 20*l.*
B. F. Matthews—Hon. mention, Architectural Union Company, and special prize, value 5*l.* 5s.; book prize, Fourth Year Evening School.
R. Cromie—Special prize, Saxon Snell Studentship, value 10*l.*
W. D. Cathcart—Elementary Class of Design prize, value 3*l.* 3s., and bronze medal.
Alan Snow—Advanced Class of Design prize, value 5*l.* 5s., and bronze medal.
E. L. Apperly—First Year Day School, book prize for first place in History Test Paper; book prize for first place in Construction Test Paper; prize for first place in Perspective Drawing Test.
R. C. Stevenson—First Year Day School, book prize for first place in Construction Test Paper; Studio prize for best Portfolio of drawings during session.
T. F. Ford—First Year Day School, book prize for first place in Geometry.
C. Rowntree—First Year Day School, book prize for first place in Physics.
A. E. Maxwell—First Year Day School, volume of A.A. Sketch Book for first place in Freehand Drawing Test; Special Studio prize.
F. A. Crouch—Second Year Day School, Travelling Studentship, value 15*l.*; book prize for first place in Intermediate Physics.
H. B. Chisholm—Second Year Day School, first place in "End of Session Test."
D. J. S. Dawson—Second Year Evening School, Scholarship, value 15*l.* 15s.; book prize for first place in Preparatory Physics.
H. D. Kidd—Second Year Evening School, book prize.
H. V. C. Curtis—Second Year Evening School, Master's prize.
P. D. Hepworth—Third Year Evening School, Studentship, value 15*l.*
H. E. Moss—Third Year Evening School, book prize.
H. A. Gold—Third Year Evening School, Master's prize.
C. A. Farey—Fourth Year Evening School, Travelling Studentship, value 15*l.*
R. M. Pigott—Fourth Year Evening School, Master's prize.
Norman Keep—Book prize for first place in Elementary Construction.
G. H. Inman—Book prize for first place in Geometry.
G. M. Eaton—Book prize for first place in Greek and Roman Architecture.
R. N. Jackson—Book prize for first place in Greek and Roman Architecture; book prize for first place in Renaissance Architecture.
C. W. Rogers—Book prize for first place in Early Christian and Gothic Architecture.
P. J. Adams—Book prize for first place in English Architecture; book prize for first place in Materials.
H. A. Thomerson—Book prize for first place in Drainage.
G. Flint Clarkson—Book prize for first place in Ventilation; book prize for first place in Iron and Steel Construction; book prize for first place in Advanced Construction; book prize for first place in Architectural Features; book prize for first place in Professional Practice.

The following students have been recommended by the Visitor, Mr. Ernest Newton, for the Board of Architectural Education Certificate, which entitles them to exemption from the R.I.B.A. Intermediate Examination:—

R. W. Cable.
G. F. Clarkson.
C. A. Farey.
A. V. Sutherland Græme.
G. W. Home.
G. D. Gordon Hake.
L. Keir Hett.
T. A. Lodge.
B. F. Matthews.
C. E. Fellowes Prynne.
I. M. Pritchard.
R. M. Pigott.
A. D. Robinson.
F. H. Swindells.
E. J. Tanner.

The following students have been awarded the Association Two Years' Course Certificate:—

E. S. A. Baynes.
A. G. Butler.
J. A. Cheston.
H. B. Chisholm.
F. A. Crouch.
B. P. Gaymer.
J. O. B. Hitch.
L. D. Martyn.
E. W. Mountford.
C. W. Rogers.
S. E. Shurmur.
R. Talvalker.

President's Address.

The President then delivered his Presidential address.

After some preliminary remarks of a complimentary and personal nature, the President continued:—

"On considering the general condition of the Association, we cannot, I am afraid, be altogether satisfied at present, for although we have wiped off the building debt, our annual balance has been decreasing rapidly, and what is worse, consistently; and, indeed, so serious do we consider the position that we are proposing during this session to thoroughly investigate the finance of all our departments, and to put each section as far as possible on a more remunerative basis.

Our total membership this year shows a slight decrease, as we have had 132 resignations and losses, as against eighty-four new members, and I am very sorry to say that we have lost by death several old and very valued members—Mr. Gruning, who was so universally respected, probably his name appeared in the bulk of cases during the last few years as arbitrator or third surveyor; Mr. J. W. Penfold and Mr. Cole Adams, former Presidents, and Professor Hulme, who for a long time was a valued member of our lecturing staff—are only a few of those whose loss we have to deplore.

This decline in our membership I attribute to the very long period of depression through which we are at present passing, and which is affecting so very adversely the most important trades in this country, among others the building trade, and, of course, architecture suffers at the same time. However, the historians will tell you that history repeats itself, and we know of similar periods of depression through which we have passed which have been succeeded by a flowing tide of prosperity, which I trust will be the fortune of our country—and incidentally ourselves—in the near future.

I am afraid that, like most professions, ours is overcrowded; but, as in other walks of life, there is always room at the top, so that we must not despair, but each of us make the top our goal, and be content with nothing short of that.

I regret that I must say that there is a certain slackness creeping in among some of the men who have done with classes and lectures, the men to whom we look to support the older institutions of the Architectural Association, the students' branches being as full of life and vigour as could possibly be desired. Every session sees the creation of some new club or section, rising, I was about to say, "Phœnix-like" from the ashes of its parent, but I must retract, for the parent Architectural Association is not in ashes but just a little inclined to be soporific. The most important case in point, to my mind, is that of the attendance and discussion, or lack of them, at general meetings, which ought to be far better attended. The papers for the coming session, I feel sure you will agree, are full of interest to every one of us, and I sincerely trust that the gentlemen who spend their valuable time in writing for us will have extended to them at least the courtesy of a good attendance. I have often wished that the Debating Society's meetings could be combined with the general ones, as the members of the former are undoubtedly very proficient at debate, and it would certainly be for the good of the Architectural Association generally that they should give us the benefit of their assistance.

Sketch-Book and Classes.

The "Sketch Book" is not at all well supported. It does not even pay its way, and I feel sure that all here would be sorry to see the end of it, but that is what must happen unless a wider circulation is obtained. The illustrations are always good and well worth the guinea subscription. I should like to take this opportunity of thanking Mr. W. G. B. Lewis for the many years of strenuous work that he has devoted to the production of this valuable volume, and to express a hope that under the new *régime* recently organised it may once more obtain the sound financial status that it once attained to under his care.

The Water-colour Class, which must surely be a favourite subject with the majority of us, is languishing for lack of support, and is likely to die out like the Modelling Class a few years back. The Life Class, too, has to hunt for members, whereas the room should be really far too small to hold all the applicants; why it is not fully attended it is difficult to imagine. The younger members have their hands already full, but those who have done with the schools surely would do well to turn their attention and part of their spare time to this instructive and delightful branch of art—the study of the figure from life.

I trust, gentlemen, that you will forgive me for this little disquisition on our shortcomings, or what is more important, I hope you will consider it, and that the Architectural Association will profit by it. I do not think there is any value on an occasion like this in looking only on the bright side of things and disregarding those less satisfactory, or else those departments suffering under the shade of adversity would continue to do so; while the more favoured, basking in the sunlight of the Architectural Association favour, would continue to flourish like a green bay-tree, whose spreading leaves would only add more to the obscurity in which the others languish.

Mutual Assistance.

A propos of the bad times from which most of us are suffering at present, I should like to tell you that the Council is always ready and anxious to help our men to the best of its power, and the desire of the members is to aid rather than harass, as regards paying subscriptions, etc., those who are found to be in straitened circumstances. The register of assistants, too, is now only open to members, and we have been able thereby to find work for more Architectural Association men than before, and I believe that there is

a very material benefit derived from the alteration. We have also very carefully considered the possibility of helping assistants in other ways; for instance, by an assurance scheme in connexion with the subscription, but this unfortunately was not found to be practical, and had to be abandoned.

It has occurred to some of us that there is not enough social life in the Architectural Association; that we meet so almost entirely in working hours, and consequently so seldom in moments of leisure, that the men of various decades do not get to know one another, and we should like to see more of the men who no longer wish to come here to study, but I suppose that their absence must be ascribed to the natural reaction after the years of hard work. However that may be, we are thinking of flattering the Royal Institute in the sincerest form, *i.e.*, imitation, by copying—on a smaller scale, of course—the "At Homes" which have proved so successful with the senior body. I hope if this can be arranged that the members will give the Council their support, as it is only by the aid of mutual confidence and assistance that a body like the Architectural Association can hope to be successful, and we are now so numerically and geographically extended that it is only at such evenings as I suggest that a large number of our members could or would ever meet; we have in the Museum premises well suited for such entertainment, and this recalls the fact that we have still the Architectural Museum apart from the Architectural Association as an annual charge on us, though it was formerly supported entirely by subscription, and I hope that the public and all interested in architecture will not forget this, as we seem in danger of not being able to maintain our list of subscribers, new ones not coming forward to fill the gaps unfortunately caused by the loss of former members, in which connexion we have to deplore the death of such men as Lord Ripon and the Hon. Dudley Fortescue. The collection of casts which we possess will bear comparison with any in the country, and we have spent a large amount on the Royal Architectural Museum in order to get it properly housed and arranged, in the hope that it would prove more useful to all students of the many styles of work which are represented in it.

Education.

Of the many branches of the Architectural Association, the educational is, of course, the most important, in fact the whole organisation is being run more and more with this department in view as the main object. Since our School was started more have sprung up in every direction, and I see that one is now being started in Birmingham, and when there are enough schools to educate the majority of those seeking an architectural training, which time I trust rapidly approaches, I imagine there will be ample support to the proposition put forward in the papers a short time back, of a Diploma course in architecture, and over which there was a great amount of discussion; the different schools naturally shape their studies on varying lines, *quot homines, tot sententiæ*, and I think it ill becomes any among them to lay down the law as to which is the best; the Diploma course would attract the best men from each centre, and the various systems could be compared by results. The proof of the pudding is in the eating, and we, I am sure, have here a very good pudding, though there may be others of a different make more to the liking of the cooks who have had a hand in the mixing.

Our students' exhibition of work this year was a very good one, a general level of excellence being maintained, which always speaks well for both masters and students. Mr. Maule, Mr. Varndell, and all the other masters work most conscientiously for the welfare of the students, who in turn must, I am sure, ably second their efforts to produce some of the work we have seen, and I am confident that in our two years of day school study, and two of evening school, the students receive a very valuable and sound grounding in their work, which must be most useful to them in after life, and very different to the scrappy and haphazard fragments of architectural pabulum from which the students of even ten years ago extracted what education they could; but there is no doubt that our curriculum could with great advantage be followed up and amplified by the course of higher studies, which cannot be embraced in the short time at our disposal here.

Architectural Association Clubs.

The Camera and Sketching Club is another flourishing department of the Architectural Association, and I think that is largely owing to the energy and administrative power of Mr. Alan Potter, who has devoted a great deal of time and trouble in working up the club, backed up as he must be by a hard-working committee. Their excursions, particularly abroad, seem to me to be wonders of comprehensiveness, and of great value to the younger members, as they are, I believe, run on the cheapest lines—and bicycles. The latter method of locomotion does not perhaps recommend itself very strongly to some of us who prefer the comparatively luxurious and very complete methods of transport arranged on the Architectural Association Annual Excursion by our excellent Hon. Secretaries, Brown and Hennings. I do not intend to intimate that the excursion is run for the older men only; far from it, we welcome gladly new men and young men, and I can guarantee this, and I feel sure those who have experienced it will agree with me, that no one is ever allowed to feel lonely or apart—all are friends, and our efforts are directed to making all enjoy themselves, which is none the less possible because we have a very full week and get through a lot of work.

The photographic work of the Camera Club is becoming increasingly useful to the Architectural Association; the collection of slides, now numbering 4,000, contains examples of almost every style of architecture, and is of the utmost value to lecturers and readers of papers, and I venture to think there are very few subjects connected with our profession which could not be illustrated, to some extent, from the collection.

Our Athletic Club numbers over 200 members, an increase of fifty during the last year, and I am very glad to see it in such a flourishing condition, as personally I take a great interest in athletics, and the club is one which exercises a powerful influence for good in every one of its members. Sport improves every man's character, and teaches him to lose well, as also to win well, and the title of a "good sportsman" is one that every Englishman covets, for it does not only refer to the athletics we indulge in, but to our efforts in the serious game of life; a healthy mind flourishes best in a well-developed body, and physical fitness is the best aid to good work, and the records of the athletic men in the schools here are no exception to the general rule.

The Sports Annual Meeting is one which I should like to see better attended, and one which Mr. J. H. Squire even suggests might be made an official summer reception, and I hope next year we shall get a better attendance, although on the last occasion those who were present made up, as far as is possible, by their enthusiasm for the numerical failure. The Rifle Section, which supplies the largest contingent, encourages Imperialism in a practical form by supplying a good number of Territorials to our home defence, for which reason alone every one who is in a position to do so should subscribe to it. The Rugby Football Section, too, is one of which we have reason to be proud, as the record for this year shows a very high percentage of wins; and if sufficient support is forthcoming—and I have already several names—I hope to start a Golf Section this winter, and as the game has now become so popular, I trust we shall have no difficulty in getting together as good a side as in all the other athletic branches.

It would not be possible to review the various subsections of the Architectural Association without mentioning the Musical Society and its worthy Hon. Secretary, Mr. P. W. Lovell; it is a body which caters largely and frequently for our entertainment, and incidentally I may say I should like to see more supporters of this deserving section. It is not necessary to be a musician to join—that is not within the power of many of us, but it seems very hard that men who work so well should also have to pay out over the play when the performance is given for the benefit of the community. The last play unfortunately did not pay its way, and the burden of the debt lies heavy upon us, so that any subscription towards the deficit would be very welcome, as it is only by this means that the debt can be wiped out; this must be done before another play is produced, and it would be a great pity for this annual entertainment to be again dropped, as it seemed to be so universally appreciated.

I am afraid that you will all begin to think that my address to-night savours too much of a charity sermon, or even worse, for on such an occasion you would be asked to loosen your purse-strings for one object only, while I have asked for assistance for many; but remember it is the workers we want in all branches—art, science and recreation—even more than the subscriptions, and if each of us were to devote some small portion of his time to one only of our various branches we should be in a very satisfactory position.

Architecture and Legislation.

Among the happenings of legislative architectural interest during the last year, the Housing and Town Planning Bill is one of which we were led to expect a great deal of good, but the more recent legislation which is being framed with regard to land taxation would seem to have a malevolent influence on the maintenance of open spaces in towns, at any rate, by private people. However, it has been said that religion and politics are the Scylla and Charybdis of public speaking, so I must refrain from enlarging on this subject or I shall be drawn into the whirlpool, but I cannot help saying that it would have been much more satisfactory if the disinterested offer of help from the Institute had been received in better part by the authorities in charge of the Bill, for if there is one thing on which the heads of our profession should be consulted it is surely this, and a good architectural result might then be obtained quite compatible with sound engineering requirements and a satisfactory financial result.

The Patents Act has benefited us to some extent, owing to the factories which now have to be put up here by the foreign owners of patents registered in this country which now have to be worked here, but on the whole there is a decided tendency just now to leave building alone until some clear idea is obtained as to the final imposts which land will have to carry.

We are to have further legislation by the London County Council under this year's General Powers Bill, in which the claims of steel as a reliable building material are properly recognised, and it is proposed to allow the erection of steel-frame buildings throughout, *i.e.*, instead of the thick outer walls formerly required, we may now have thinner panelled walls with steel framing; but, on the other hand, the internal structure is now to be subjected to further supervision, this part of the building being rightly held to be an integral part of the outer shell, whereas with the brick outer shell such was not the case; but a heavy responsibility is being laid on the London County Council and the district surveyors, as they will be answerable for the stability of the new type of building, and I fear some amount of time must be lost in getting plans approved, and time is a factor on which our clients nowadays never

fail to lay the greatest stress, and I must say I am inclined to think that taking the responsibility from the architect is a mistake; it means the work being done twice over and taking a large amount of interest out of our work, as the architect should be the author of the entire building, including the structure.

Modern Conditions.

The strides made in ferro-concrete, which is recognised as a subject of future legislation in this Bill, have been prodigious, and though up till recently this type of construction has been utilised chiefly for engineering work, its influence is now being felt in our architecture, and this opens up a very wide question for consideration, for if this medium is going to be, as I think, the one utilised in our larger architectural works, we shall either have to take up the study of this form of construction with its attendant possibilities, or we shall find there will come into existence a ferro-concrete specialist who will take over the general construction of the building, and the architect will be relegated to the decoration of the interior and the design of the exterior.

This again raises a point of supreme importance which we are sometimes inclined to overlook, we must design our work to suit modern conditions. It is impossible to insist on the acceptance by the public of the type of work which was suitable even twenty or thirty years ago; we have to face the problem and accept the present conditions and endeavour to treat them architecturally, instead of attempting to make modern requirements bend the knee to preconceived ideas of architectural treatment, and surely this can be the one way to evolve a style of architecture of our own, which can only be good if suitable to the conditions of the country and the requirements of the people.

I am referring here, of course, to the large commercial buildings in our cities, as in domestic work we have a freer hand, for the habits of life in the home can never change so thoroughly and so quickly as in the world of business. Why should not good architecture be produced with modern materials and to suit modern users? The steel column and beam are accepted facts—why hide them with an arch and a dummy pier? Why should not our construction be shown in our designs instead of being hidden or obscured as much as possible? There is no doubt that we shall have to evolve a new method of treatment for the modern types of construction unless we are going to be content to let our architecture be a mere shell or screen of stone or whatever material we may elect to use, pegged or hung to the structural members, screening these from view without indicating their underlying form, as should surely be the case.

Architecture, we all know, constitutes an art and a science, and every year we live the latter component asserts itself more forcibly and will not be denied; it is becoming more closely interwoven with the artistic part of our work, and has a very material influence on the result, and we cannot shut our eyes to the fact and attempt to work only for the artistic. We can only produce an unsatisfactory result where we do not boldly tackle the problem with all the attendant difficulties; we cannot elect to deal with any question from the particular point of view which we desire, to the exclusion of the less interesting but none the less essential factors.

No one can fail to be struck by the general improvement in the attitude of the public towards town architecture of late years; planning of streets and open spaces has received much more consideration, and the relation of individual buildings in connexion with streets and adjoining work is not now so consistently disregarded. The average Britisher, to borrow a term from the other side, now takes a broader interest in architecture, and his horizon is not bounded by the particular buildings in which he lives or works; and as he educates himself the book opens, he knows the good from the bad, and begins to appreciate the former, and thereby creates a demand for that which we have to educate ourselves to supply.

With reference to domestic work, we have many men carrying on that high tradition in architecture for which England is justly famous, and I think we may congratulate ourselves on attaining a very high general standard at the present time; the public will not have the house which satisfied them a few years back, so even the speculating builder has to produce houses more consistent with the accepted canons of art than those he formerly flaunted in our architectural faces. In this connexion I should advocate the assistance, but not the entire control, of the woman in architecture, for, in spite of the risk of bringing down on my head the wrath of the suffragettes, I feel sure that the wider architectural field is not one for which the woman is particularly adapted, though in domestic work she would be a very valuable ally. How can mere man expect to know the working of a house like a woman? especially behind the scenes in the arrangement of the service and kitchen department; and very often in decoration we should many of us produce better work if we had the advantage of feminine assistance.

Registration.

Another bone of contention which I feel bound to touch upon is that of registration. I myself am in favour of it; of course no scheme of registration can elevate the art of architecture, but it seems to me that it certainly cannot do it any damage, and incidentally is sure to eliminate some of the undesirable, and might put us on a better recognised footing; but before we can be better we must be worse in such an all-embracing scheme as it must be to become law, many self-styled architects must be included in the roll, but that is or should be the end of this class except so far as the public care to trust any unqualified man when they know that qualifications are essential. Before we can get satisfactory registration we must become a united body, and the advocates of the extreme views must moderate them; but one thing is quite certain, the movement cannot be rushed as one party at the moment seem to desire, as no Bill would stand a chance of becoming law if opposed by any considerable section of the same profession as the promoters; but I venture to think that the anti-registrationists are lessening in number, and I feel sure that they, being mostly in the forefront of the profession, will not stand in the way of a movement that so many think would improve our lot, although they themselves have succeeded in spite of the present position of affairs. There is, to my mind, one most essential factor, and that is loyalty to the central body—I mean the Institute. If this point was now generally realised the advantages to the profession would be immense; until nearly, if not all, architects belong to the Institute, the Institute in turn cannot put forward its views as those of the profession at large, and those architects in favour of the movement who refrain from supporting the central body are only weakening the cause of registration, and not advancing it.

General Advice.

There are here to-night a good number of students, some successful in this instance, and some who are going to be; those who have carried off the awards I congratulate sincerely, but I would urge the others, some non-competitors and some unsuccessful ones, to press forward none the less energetically because they cannot just now see their way to the top. Remember that you are only on the lower rungs of the ladder, try again, or start to try, if lack of confidence in your own abilities has restrained you hitherto; the competition for the prizes has not been numerically strong of late, and you may find that you can do better than you think, and obtain honours here, to be repeated in the more important competitions at the Institute and again later in the field of life, where you may gain the highest honour of all—the appreciation of your fellow-workers, which nothing but the very best you are capable of will ever obtain for you.

I have often wondered lately if the brilliant draughtsmanship of the day, unless carefully guarded against by the student himself, may not have a derogatory influence on design; a too fluent pen or pencil is liable to run away with the happy possessor, though at times I admit he is wont to rise to far higher flights of fancy than the man less gifted in this way; but the product of the literary man's pen is his finished work, while the drawings of an architect are only means to an end, a step towards the building itself, and what looks well on paper, when drawn as well as some of you can, is liable to be misleading and less satisfactory in actual execution; therefore I would say, do not be satisfied with designing on paper without knowing the value in actual concrete form of the lines you put down, and the only way to know this is to take every opportunity of observing in actual work the value of different treatments, groupings or mouldings, and imagine how you would represent them on paper. I feel sure that most of our ideas, in some shape or form, have been thought out before, and in all probability executed, and are waiting somewhere for our approval or the reverse, to give us the advantage of modifying our ideas by the experience of those who have gone before.

The power of observation, when highly cultivated, is of inestimable value to us; a friend of mine remarking on it in this room, once said, "I wonder how many of the men here know the number of panels in their front door?" I was the first victim, and for a short time afterwards I went about counting door panels as an exercise. I wonder how many of you are as ignorant as I was?

I noticed recently in one of our periodicals a short article on London as seen from the trams, of which I believe there are about 400 miles, in which the author remarked what a good knowledge of our city could be obtained in this way, and what a valuable asset that knowledge was; how true this is, and how little most of us know of this big city in which we live, when you consider that you can now ride on bus or tram, from east to west or north to south, over the 117 square miles covered with buildings in the Administrative County, you can imagine what a panorama of architecture and building is spread before you—an open book seldom read through—but study every page, good, bad, and indifferent, sum up and analyse every example before you, find out why a building strikes you as good; is it mass, colour, detail, or some fresh note in composition which has been struck? Consider even the works which do not impress you favourably; there is something good in most of them, or you may, at any rate, learn to avoid some pitfall that has been the undoing of a former essay, and above all, I would say, criticise kindly, look for the good in all and not the bad, hesitate to say to yourselves how much better you would have done it; you never know the limitations, the troubles, the laws, the by-laws, the client's requirements with which the man who was responsible was hampered, and whether under similar circumstances your own work would have compared so favourably with it as you are inclined to think.

The difficulties that beset the path in actual practice, especially in large towns, are legion, quite apart from the matter of design, but these special requirements are increasing every day, and they must all be known to us before we can give of our best, for they will probably affect our designs very considerably; but if we strive earnestly to do the best that we can in every case, even though others at first seem too far ahead,

in the end the earnest worker always gets his reward. One form of genius has been described as "an infinite capacity for taking pains," and the man of that type is never far from the winning-post at the end of the race."

Mr. Walter Cave, Past-President, in proposing a vote of thanks to the President for his address, congratulated him on the honour, thoroughly deserved, which had been done him in electing him as President. There were very few members of the Association who had been more intimately connected with it than Mr. Tanner, and he had a record behind him of which he could not fail to be proud. The Association, therefore, could be congratulated on its choice, for their interests would be furthered and strengthened during the President's term of office. No one who had not written a Presidential address knew what a difficult task it was, and their President was to be complimented on his masterly effort. One part to be regretted, perhaps, was the reference to the finances of the Association. Most of them no doubt believed that the Association was rather more than paying its way, judging from the fact that during the last seven or eight years they had paid for the premises they now occupied, and many of them would be surprised to hear that some retrenchments would have to be made, with a thorough overhauling of the financial position. That was a serious matter, but no doubt, as the President had suggested, that was only a reflection of the times through which we are passing. He hoped that those who had charge of this financial overhauling would not find it necessary to reduce in any way the salary or the efficiency of the teaching staff, because the Association was really a teaching body, and their teachers were their greatest asset, and should be of the best. They had heard that there was always room at the top, but unless the teaching and the instruction were of the very best, he was afraid that the chances of students and pupils reaching the top would be much reduced. He suggested that whatever else went they should keep the best teaching staff they possibly could. They were all pleased to hear of the success of the various branches of the Association—of the Athletic Club, and so on; and he was interested to hear that keeping the Association register for Association men only had been a success, for he had been more or less responsible for the suggestion, and he was pleased it had borne fruit. The deficit on the Association play was to be regretted, but he thought there should not be a deficit, and that it was possible to have a play equally instructive to themselves and the outside public, and equally successful if it were not quite so elaborate. They would all regret it if the play they produced should be a drain on the purses of those who were responsible.

Sir Aston Webb, C.B., R.A., Past-President, who seconded the vote of thanks, said he agreed with the remarks made by Mr. Cave in reference to their President, whose long experience as to the working of the Association, and the enthusiasm with which he had supported it, marked him out as just the man to occupy the chair. The President's father and he (the speaker) were old friends, and it was very pleasing to them to see their sons taking an interest in the affairs of the Association. He had had the pleasure and advantage of having the President in his office for some time, but since then Mr. Tanner had got together a successful practice. He (the speaker) had had a long connexion with the Association, for it was about thirty years ago that he was Honorary Secretary, and twenty-five years since he was President. He did not think it would help them much to consider what they used to do in those days, and the Association certainly did better now in some respects. With regard to the prizes, he had been amazed at the great number given away, and the extraordinary number given to some of the men. And in that connexion he could specially compliment his old friend, Mr. Flint Clarkson, on the phenomenal success of his son during the year. He also noticed that the son of a Past-President, the late E. W. Mountford, was among the prize-winners; and it was very pleasing to find so many of the sons of architects, following their fathers, which looked as though architecture was not quite so bad a thing as some people believed. The President had lamented the decrease of membership of the Association, and where that occurred through death they must all do the same; but where it was from other causes he was not so sure. One of the unfortunate results of the increasing numbers of schools in the country — not only in architecture, but in painting, etc.—was that a large number of men not fitted for these professions were induced to enter because of the increasing facilities for doing so. There were a large number of painters, for instance, who were taught in the schools and who did not get much further; and it was the case with some architectural students. Though he was sorry for the Association if the number of members decreased a little, he did not view that decrease with entire regret. As the President had said, there was want of employment, and where that was so they did not want to bring in more men to increase that state of things. As to women architects, he could not agree that they would make better architects than men; and he imagined that a house designed by a woman would be all cupboards, swollen kitchen offices, and much reduced smoking and dining room. He was not in favour of women architects, nor was he in favour of registration—but that was a matter of politics, and was not to be discussed. He was sorry to hear that the "Sketch Book" was not a financial success He had given it up because it was so flourishing, and his bookshelves were so full, but after what he had heard he should subscribe again. As to the future of the Association, he had taken the greatest interest in its success for many years. He remembered the astonishment that was created when Mr. Seth-Smith suggested the establishment of a Day School, and the still greater astonishment when the Day School was started and proved such a success. He (the speaker) had always been a loyal supporter of the schools and still was, although, through an accident, he was also very much interested in other schools and had retired from the Visitorship of the Association, because he felt it was not desirable that he should occupy more than one similar position. He was not in a position to speak for the Royal Academy, but he could say he was sure that that body was desirous of working with the Association in the matter of their schools, and everything that could be done to bring those schools into co-ordination would, he was sure, meet with their sympathetic support, and would, he was also sure, be of the greatest advantage to the schools themselves. He had been through the Association and had in his time held nearly as many offices as the President; he had been through all the offices of the Royal Institute of British Architects, he thought, and had now been through a good many at the Royal Academy, and could see quite well the position which each of those bodies should hold to each other. As he saw it, while the Architectural Association remained what he hoped it would always remain, *i.e.*, a young men's body, they should be concerned in the elementary education of the architectural student. At the other end there should be the more advanced education of the Royal Academy, with the Royal Institute of British Architects as the sister of both by virtue of its examinations and the prizes it offered. It all seemed to him a perfectly simple matter, but at the present time they were not associated as they should be and as, he thought, they wanted to be. He believed the Royal Academy would be quite willing to do all they could to encourage that Association. The Academy was not anxious to have an enormous school; they gave education free and their accommodation was comparatively limited, and they did not need more pupils. But they would like to see—he should, personally—a closer connexion between the Association and the Academy Schools. That was one way in which he thought some forward movement might be taken in the Association. Another was in the matter of papers read at the ordinary general meetings. The difficulty of the poor attendances, etc., at the fortnightly meeting was the same when he was President of the Association, and the fact was that people were not particularly fond of papers. The Association got the very best papers from the best men, and still people did not come. He had often thought that if they made the discussion or debating meetings more general they would have better meetings. They did not so much want distinguished people to give papers; the papers should be given by the members themselves, who would then be free to get up and say more readily that they did not agree with the paper at all. That led to a spirited discussion, and gave the reader of the paper something to say in reply, and that, he believed, would do much for the *esprit de corps* of the Association. Young men did not mind being contradicted; later on criticism was sometimes irksome; young men liked it and replied. He thought, seeing that the Association was for young men, that perhaps they had imitated the Institute—well, he would not say too much, but a good deal. They had altered the name of their Committee to "Council," the name of the A. A. "Notes" to *Journal*, and so on. He thought of the old days when this was a student society, and they were all a jolly good lot of fellows together, and he should be sorry if the Association became a second Institute; they wanted only one of each. The President referred to steel framing and modern conditions of practice. These changes were bound to come, and it was of the greatest importance that young men should face the facts. The President mentioned that probably buildings would get put up by experts and architects would be called in merely to finish them; but was it not more likely that, while experts might put up the buildings, firms of upholsterers would finish them? If that were to happen he did not know where architects would be. They should all keep in touch with the latest methods and materials, and keep up their enthusiasm for their work. He looked back with the greatest pleasure to the time when he was working for the Association, and it gave him great pleasure to be there that night to hear his old friend as their President and to see his (the speaker's) son acting as Honorary Secretary.

Mr. W. H. Seth-Smith, Past-President, said he felt an interest historically and prospectively in the Association. He knew so well from experience what an onerous work the President had taken up, for the Association had grown to such dimensions and had so many departments and branches in which the President was expected to take an interest or leading part. The President, with his large experience of the administration as well as the deliberative part of the Association, would be able to fulfil all the duties with great success. The Association was supposed to go with the times and be progressive, and he was glad to hear the suggestions for new departures in the President's address. He was very glad to hear of the prosperous state of the social and recreative part of the work. They were bound, as young men, to keep this up. He thought there was a rather pathetic tone in the President's address, and, judging from the speeches just made, that appeared to be justifiable. The President was not pessimistic; he uttered just a warning note that, while there was so much distress and depression around, the Association must cut down expenses and wait for the better times that

were coming. People spent so much money on motor-cars now that building and architecture suffered. And architectural practice was carried to a higher place in the provinces more than it used to be, and men were as cultured and as qualified as they were in London. That was not so much the case in his younger days, All this had made a marked change on our methods of teaching and in many other ways, and especially in the demand for the services of London architects. He was very glad to hear the President's exhortation to criticise kindly and charitably; that was one of the most needed of exhortations. As to the schools, he should have liked to read a few lines of a remarkable paper printed in the Institute *Journal* last month. It was by Professor Laird, of Pennsylvania, on the reasons for the establishment of highly systematised schools, and the Professor's words should be read by all. It might be considered a commonplace to say that we needed schools, but the admirable way in which Professor Layard expressed the needs and had shown how those schools should be worked made it difficult to exaggerate the excellence of his remarks. As to the Association, it seemed to him that they were carrying out Professor Laird's principles in the very best possible way, and as one of those who carefully examined the work of the Association students, recently exhibited, there he felt he was justified in thinking that the Association School is excellent. The Association was basing its teaching on principles which were essential; and wisely neglected a lot of detail which perhaps some years ago might have been insisted on. And they carefully excluded anything like pictorial or academic pictures. There was just sufficient perspective and colour and pictorial design, if they liked to call it that, to illustrate the work being done, and the problems set to be solved. He noticed particularly that the work done was not merely small work such as farmhouses, cottages, etc., but it went on to better and larger work—more monumental work, work quite as far advanced as any student of the schools should need. As to a further departure, such as a Diploma Course, which had been talked about, he had not the slightest doubt that that would come, and would be made full use of by Association men, who would be fully qualified to deal with the problems set. Sir Aston Webb had already referred to the President's remarks on scientific construction. That was a question which the Association would need to deal with thoroughly in their schools; far more science would have to be acquired if they were to keep work within their professional limits, otherwise they would lose their position as architects. These new and rather highly specialised forms of construction were rapidly coming to the fore, and architects must be equal to dealing with them. There was no reason for pessimism as regards the Association and its work; on the contrary, they should be optimistic as to the Day and Evening Schools which had been so admirably kept up and which had been going strong. The Association were pioneers of architectural education in this country. It had by far the largest school of architects. It was formed very largely, as they had seen and heard that night, of the sons of architects who had themselves, as practising architects, run the whole thing; and they were warmly supported in the methods they pursued by the Board of Architectural Education. Therefore, he felt sure they would go forward, as they had in the past, feeling that the little depression would soon pass away and that, under the able guidance of their new President, they would be able to maintain their position.

Mr. Osborne Smith supported the vote of thanks, and congratulated the President and the Association in electing him to the chair.

Mr. Cave then put the vote of thanks to the meeting, and it was very heartily carried.

The President, in reply, said he had made perhaps a little too much about their financial position, and he certainly did not look with pessimism on the state of the Association. But he did not think it did any harm to have an occasional reminder. They had got so used to thinking that the Association could go on successfully and always would. A stitch in time saved nine, and a little thought and care now would save a lot of future trouble. He did not think he had been understood in his remarks as to women and architecture. He meant that if there was a place for women in architecture it was in dealing with domestic work and not in larger work.

The meeting then terminated.

The next meeting will be held on October 22, when Mr. F. D. Clapham will read a paper entitled "The Architectural Association Excursion to Cheltenham and District. 1909." The Council's report and balance-sheet for last session will be adopted at the same meeting.

THE INSTITUTE OF BUILDERS:
ANNUAL DINNER.

THE annual dinner of the Institute of Builders, Incorporated, was held on Tuesday, at De Keyser's Royal Hotel, Victoria-embankment, E.C., Mr. W. F. Wallis, J.P., President, in the chair. There were also present Messrs.

F. G. Rice, President London M.B.A.	C. W. Latter
Ernest J. Brown, President Nat. Fed. of Bg. Tr. Employers	C. G. Miller
E. E. Humphreys	J. A. Wallis
F. G. Wallis	W. Godson
H. E. Mathews	J. J. Jones
F. W. Ruck	A. S. Pridmore
G. E. Bond, J.P., President Society of Architects	E. H. Selby
T. J. Bailey, Architect L.C.C. Education Department	F. A. Wallis
C. W. Ferrier	B. P. Boorman
F. L. Dove, L.C.C.	R. C. Gleed
A. Stoner, Master Tylers' and Bricklayers' Company	G. Bird Godson
Henry Tanner, jun., President Architects' Association	H. J. Treadwell
Alex. R. Stenning, President Surveyors' Institution	Fleetwood Buss
Edwin T. Hall	G. B. Carvill
James S. Gibson	F. M. May
H. T. A. Chidgey, President Quantity Surveyors' Association	A. B. Yeates
Wm. Shepherd	J. W. Chessum
T. Gregory, J.P., Mayor of Reigate	Herbert H. Holt
L. J. Maton	R. B. Chessum
Jos. Randall	L. Barrett
Leonard Horner	C. H. Mabey
G. Macfarlane	Fred. Higgs
Sidney Leaning	H. P. Shepherd
C. H. Barnsley	F. Messom
T. E. Bare	R. J. Holliday
J. W. White, J.P.	L. C. Randall
S. Smethurst, J.P.	H. A. Bartlett
Ian MacAlister, Secretary R.I.B.A.	J. M. Theobald
	H. S. Greenwood
	A. B. Falkner
	Alan Neill
	R. W. Neill, J.P.
	T. Hall
	G. P. Nash
	G. H. Parker
	A. G. White
	H. P. Gordon
	A. W. Turnbull
	E. J. Strange
	G. Parker
	A. H. Ryan Tenison
	C. E. Bloomfield
	W. T. Walker
	Wr. Lawrence, jun., and T. G. Costigan, Secretary.

The loyal toasts having been proposed by the Chairman and suitably honoured,

Mr. F. G. Rice, President of the London Master Builders' Association, proposed the toast of "The Architects and Surveyors," coupled with the name of Mr. Henry Tanner, jun., President of the Architectural Association, and Mr. Alex. R. Stenning, President of the Surveyors' Institution. He said that, to quote Shakespeare:—

> "When we begin to build
> We first mark out the plot, then draw the model.
> And when we see the figure of the house,
> Then we must rate the cost of the erection."

One perhaps whose veneration for the old led him to see nothing but beauty in the ancient work could scarcely perceive that anything of to-day could compare with the work of the old masters. He would extol in eloquent diction the progress of architecture with the Assyrians and Babylonians, discourse on the noble simplicity and dignity of the Greek or the more extravagant ornament of the Roman, would enlarge on the beauties of the Norman, and be enraptured with the details of the Gothic. And, conscious that each in his way made the traditions of the art so ably represented there that evening, exclaim with Emerson:

> "The hand that rounded Peter's dome,
> And framed the aisles of Christian Rome,
> Wrought in a sad sincerity.
> Himself from God he could not free;
> He builded better than he knew;
> The conscious stone to beauty grew."

Another, perhaps, whose veneration for the old could not be gainsaid, yet believed and realised that the architects of to-day had the same zeal, the same desires and aspirations and love for their work that actuated the ancient architects and builders, would wax eloquent upon the charms and merit of the beautiful buildings which were erected in our day, and which we saw rise up in our midst. And who would say, when the history of the architecture of the present day came to be written, that the names of many present and those whom we admire and respect would not be writ large in that roll of fame as worthily maintaining the traditions of the past? While another will harrow our feelings by detailing the trials of an architect's life—how at every turn he was beset with difficulties and troubles which well-nigh overwhelmed him; how the irregularities of the site spoilt his elevation and design, how the smallness of the purse or the wishes of his client limited his aspirations; how the countless building Acts and by-laws and the stern demands of the sanitary inspectors mar his plan; and how he at times felt that every man's hand was against him, and that it was a crime to build. He yielded to none in his veneration for the good in the old; but his admiration for the work of the present was unbounded, and his sympathy for the trials and cares of the architect was very real. For all that, to his mind, architecture was one of the most fascinating and agreeable of the professions to enter. The delights attending the conception of the design, the gradual evolution of that inception until the actual completion of the building, must afford its author a constant companionship of his work which was denied to the other professions. He had often been impressed by the beautiful effect of the sky-line of the buildings in London, especially when approached from one of the bridges. He was very charmed a few mornings ago to notice what a beautiful picture it formed when seen through an early morning mist, which so often overhangs London. He was reminded of Madame de Staël's definition of architecture, which he would briefly paraphrase as "Architecture is frozen music," and it needed but little imagination to regard the pinnacles and domes as the sun-clad peaks of Nature's romantic scenery; and as the mist lifted and the sun burst forth upon the beautiful examples of the architect's art he could not but feel proud to be a citizen of dear dirty, smoky, old London, and to be connected, however remotely, with a profession that had given us such a wonderful vista. Unlike its sister art, architecture was ever present with the masses—it was there to elevate and educate. The very streets proclaimed its greatness and the squares its grandeur. He was very glad to observe that town planning was having the close attention of the architectural profession. Alas, it came too late! The only thing he envied Parisians in their city was the grouping of the buildings and arrangements of the squares. We in London had buildings equal in beauty, and squares and parks equal in grandeur, and if these could have been grouped by the old masters of bygone days London would have been the envy of the world. While we fully realised and appreciated the "seen" in the work of the architects, yet we were not unmindful of the unseen which was so abundantly supported by them. The education of the younger members of the profession was looked upon as a labour of love, and cheerfully undertaken by the ablest of its members. The watchful eye was ever on the alert on the exacting and onerous regulations which emanated from a certain quarter with recurring frequency. Especially did they wish to record their appreciation of the valiant fight made by the

Royal Institute of British Architects against the mistaken zeal and grandmotherly legislation which, although it had for its object "to facilitate building," would, had it not been for the efforts of that Institute, have had the opposite effect and retarded building; and although the Bill was not by any means ideal, it was much better for the spirited challenge of the architects. The work of the surveyor, or the surveyor with whom they as builders mostly came in contact, the quantity surveyor, was totally different from the architect, inasmuch as it was hidden and forgotten. The architect worked for posterity, the surveyor for the moment. The work of the architect was to be seen—it stood for time, and was admired or criticised according to its merits or the ability and taste of the critic. The work of the surveyor was realised by few and seen by fewer. When it had survived the criticism of the architect, who perhaps might assert that too much had been taken, or the suggestion of the builder that the work had been skinned, it was consigned to the oblivion of a brownpaper parcel. It was not his actual work that they were concerned with, not what he did, but how he did it, and it was in this respect that they desired to show their appreciation of the surveyor. He thought the day of the surveyor was fast disappearing who calmly numbered his doors and frames or had the delightfully simple and vague item, No. 1 porch roof; and although he personally should like to see a little more unanimity in the mode of preparation of the quantities to facilitate the speedy dispatch of tenders which was the horrible nightmare of the estimator; yet the surveyors were to be congratulated that the decided improvement which was initiated many years ago, encouraged and fostered, was now being stimulated by the advantages and advance of education to the ideal they all desired. If we could only get quantities for all work, then the builder would be pleased, the surveyor encouraged, and the public well served. He looked up the encyclopædia to see if he could get a definition of a quantity surveyor. He found he was not mentioned under surveyor. He found that there were only two kinds of surveyors—the land surveyor and the marine surveyor. He then looked under the heading of gentleman, peacemaker, and friend, but could not find him mentioned. But surely he was all three?

Mr. Henry Tanner, jun., President of the Architectural Association, in reply, said that the art they practised was a high art and a constructive art, and it was in the latter sphere in which they met their friends the builders largely. He said friends advisedly, for although he was, as a young architect, led to believe that the builder was a man very difficult to deal with, he now believed that builders were their friends and ready to help them achieve their ends, and from whom one could learn much. Architects' designs were but a halfway house, and without the assistance of the builder they would not see those designs realised. There was one small matter in regard to which architects frequently disagreed with builders, and that was as to price. It struck him, in regard to the quotation that Mr. Rice had made from Shakespeare, that Shakespeare had a shrewd idea as to clients, architects, and builders, for after the words quoted by Mr. Rice, *i.e.*, "Then we must rate the cost of the erection" (which was where the builder came in), he went on to say:

> "Which, if we find outweighs ability,
> What do we then but draw anew the model
> In fewer offices, or at least desist to build at all!"

What a picture of wasted effort that was! No one seemed from that to get much out of it. He had to make an admission—*i.e.*, that until recently he did not know the difference between the Builders' Institute and the Master Builders' Association, but now he knew that the Institute was the only incorporated body of builders in the country, and that it had been in existence some thirty-six years. Surely with these two bodies in London the building trade must be well organised. Architects must grant priority to builders in one respect at least, *i.e.*, because they came into existence first; but when the architect was called in to assist the builder out of some difficulty it was a very good thing for the builder, who thus got a buffer between himself and the client, for architects were useful in that way sometimes. As to the present, it was true that times were bad, but we were too apt to grumble about this. We should blame the good times, too, for they taught us luxury, and when bad times came we did not know how to throw luxury off.

Mr. A. R. Stenning said that the word "surveyor" had a very wide meaning, and the surveyors in the Institution which he represented included a good many branches of the profession; and amongst them was a Quantity Surveyors' branch, though that was not quite so numerous as some other branches. He was brought up as a surveyor in this sense, that he was an old practising architect and surveyor. In his young days there was not the division between architects and surveyors that there now is; then the architect was the surveyor, too, but now many architects did not look upon surveying as any part of their business at all, and so architects and surveyors had got rather separated, though he was both. He learnt a good deal of surveying and building from an old member of their body, *i.e.*, the late J. M. Macey, of the Strand, who was a good friend to him. They could not ignore the very difficult times they were going through now. The attacks made upon property by the Chancellor of the Exchequer had upset all one's previous calculations and experience as to what was right between man and man, and what would be the result of it all one did not know. Many of the proposals put before the country had been a great deterrent to building enterprise, for there was a want of confidence which was serious to contemplate. It was not only those who built, but the large body of men employed by builders and others who felt the present unsatisfactory state of affairs; it was the large amount of unemployment which was such a serious matter. He hoped that something would happen to restore confidence and improve the whole of the building trade. As to the London County Council, sometimes it seemed as though that body was the friend of architects, surveyors, and builders, but that had not been the case in reference to the London County Council Bill in reference to steel construction and ferro-concrete, which had to be fought. The architects, surveyors, and builders banded together and had conferences, and, loyally supported by the engineers, they were able to bring about the alterations they wanted, though not without a lot of expense and trouble. They gave their time ungrudgingly, and they had succeeded in getting a workable Bill, though it could not, he thought, do much good or harm so far as London was concerned. There was another matter. He had sat with Mr. Macfarlane on a Committee appointed by Mr. Gladstone to inquire into the question of safe scaffolding, and they spent a good deal of time in considering the matter. Every precaution should be taken to make scaffolding as good and safe as possible, so as not to waste the life of anyone; but all changes of this nature cost money, and builders had to pay for them. He did not think that anything had been done as the result of the inquiry, and he should like to know whether anything would be done.

Mr. G. E. Bond, J.P., President of the Society of Architects, then proposed the toast of "The Institute of Builders and its President." He had no hesitation in saying that, given a practical design to work to, and a practical architect to supervise the work, builders as a class might safely be relied on to exercise their exceedingly practical knowledge and experience and judgment to promote the best interests of all concerned in the work. A few centuries ago the intervention of a middleman between the person who desired a building and the craftsmen who assisted each other in its erection was superfluous, for, given a general plan to work to, and with expert craftsmen in each particular branch, possibly with the assistance of a few subordinates, he arranged and worked the material with which he was most accustomed to his own taste, and with his own hands performed all work, both heavy and light. Speaking somewhat as an artist he regretted that those days had passed never to return—days when it was the chief aim of every workman to make himself an expert in his art and craft. Since then things had greatly changed, and with the introduction of machinery and its rapid development in all directions hand labour had been reduced to a minimum, and with it had gone the security of position, the honest independence, and the due recognition of genius and skill which were among the rewards of the ordinary workman or craftsman who, as the result of persistent thought and conscientious effort, succeeded in fully appreciating and thoroughly understanding the highest capabilities of his materials, and evolving therefrom many of those beautiful designs and details which at the present time were the objects of our great admiration. But the present-day workman was not by any means an artist; modern tradition tended to reduce all to a dead level of mediocrity; each was a cog in the machine built up by a scientific age, and individuality was at a discount. The net result of this was that under modern conditions a contracting force was an absolute necessity, and to be efficient that force must be associated with an adequate amount of capital to provide the expensive but very necessary machinery and plant, to purchase material, and to pay the wages of the workmen. And as the building trade was not one which lent itself readily to co-operative effort upon the usually recognised lines that contracting force had devolved upon a set of men whose energies, foresight, and business ability were equal to that of any other class throughout the country. Under modern conditions the building contractor had justified his existence as a very necessary part of the building scheme, being the brains moving the machine which made it possible to build huge structures with dispatch and economy. The present relations between capital and labour necessitated the existence of powerful organisations on both sides. Trade disputes were seldom satisfactory, and it was necessary and desirable for both masters and men to have their organisations to protect their interests. An advance of five or ten per cent. in the workman's wages meant an increase in the cost of building, and must be ultimately paid by the client, and one of the objects of a master's association was to deal with labour organisations in such a way as to secure some degree of permanence both in conditions of labour and rates of wages.

The President, in reply, said he joined the Institute eleven years ago, and he had been on the Council some ten years, and so he had a good knowledge of its work. The Institute had the whole of the interests of the trade to represent, except as to the relations with the men. It was an incorporated society, and the only body connected with the industry that was recognised by Government. Its work might roughly be divided into four divisions—*i.e.*, Parliamentary, Municipal, Industrial, Educational. He had been looking through the agenda papers for the last ten years, and he was surprised to find how manifold the activities of the Institute were, but it worked unostentatiously and quietly. In connexion with their Parliamentary work, they had had before them such matters as Plumbers' Registration, Easement of Light, Extraordinary Traffic, Workmen's Compensation and Insurance, Census of Production, London Building Acts, Employers' Liability, Water Board, Building Court, Prevention of Corruption, Building Accidents, Labour Exchanges, and it must be remembered that of late years Parliament had been

very busy on the side of workmen, and by deputations and evidence on Committee it had been the endeavour of the Institute to put their views before the Government, and in nearly every instance they had done so with much success. The Government sitting was always ready to learn the views of the Institute on any matter affecting them. There were on the Institute men of great ability, like Mr. Shepherd, Mr. Frank May, Mr. Greenwood, Mr. Holloway, and others, all men of great experience, whose views were received by the Government with the respect they deserved. The builders of the country owed a great debt of gratitude to the Institute and its Council for their trouble and expense in connexion with Bills before Parliament. The opposition to one Bill alone cost the Institute over 200*l.*, and such opposition meant a good deal. As to municipal work, they had had a good deal of correspondence and discussion with various bodies in reference to such matters as building regulations, wayleaves, demolitions, and inspection of scaffolding. These matters were always cropping up to demand attention. The Institute had appointed witnesses for Royal Commissions on regulations for factories and buildings in course of erection, and had, it might be, prevented the formation of rules which would have been disastrous to the economical working of their businesses. Then as to their relations with architects. During the time he had been on the Council they had completed their *magnum opus*—*i.e.*, the settlement of the long-fought-for form of contract, which had now been working for some six years with great success. They had during the last session, owing to one of His Majesty's judges, been asked to amend the wording of one clause of the form, and, a form of words being agreed upon by the Council and the Royal Institute of British Architects, they believed that the difficulty had been settled. There were many matters in connexion with industrial work which they had had to deal with, such as Municipal Trading, Priced Bills of Quantities, Assimilating Practice of Surveyors, Fire Prevention, Standardisation of Material, W.O. Tenders, London Chamber of Commerce, Mersey Dock and Harbour Board, Contract and Sub-contractors' Forms, Relations with the Royal Institute of British Architects and London County Council. They had made a step in the direction of friendly relations with foreign contractors, arising out of a visit of some Belgium contractors to London, when they were entertained by the Master Builders' Association, and great cordiality was shown. He thought that there would be a strengthening of these friendly relations, to the advantage of all of them who went abroad. The Institute had by no means neglected the educational side of its work, but, seeing what was done elsewhere, that field was limited. Mr. Rice had been appointed an examiner to the Carpenters' Company. They had had lectures on American Methods, Building Contracts, Tunnelling for Tubes, Seasoning Timber, Foundations in Deep Water, Reinforced Concrete, and the Giving of Medals. It was also proposed to have an examination of builders' clerks. The work of the Institute was varied and many-sided, and he regretted that they were not better supported by builders, more especially by builders in the country. The Institute did not advertise itself, and it did not concern itself with labour disputes between masters and workmen, but it took action in many other ways on behalf of the trade, and they deserved more support than they received. They were not retrogressing, but they were not increasing their membership very rapidly, and he appealed to builders who were not members to join. In conclusion, the President referred to the great assistance which Mr. Costigan, the Secretary, rendered to him and the Institute. Their Secretary had the affairs of the Institute very much at heart.

Mr. J. S. Gibson, in proposing the toast of the "National Federation of Building Trade Employers of Great Britain and Ireland," said that they all—architects, surveyors, and builders—had to accept the conditions of building work as they found them to-day, and it was no good attempting to bring back the state of work, of design and methods which produced the great architectural triumphs of the past; those methods were gone for good, and we had to accept the present conditions relating to work and workmen, and he thought that the efforts of the National Federation should be rather concentrated upon those qualities which would tend to make good building in the future—good workmen and the success of the art of architecture, as well as the art of building. He was perfectly certain that, as far as the education of the workman was concerned, a great deal could be done, and ought to be done. It was only by producing good workmen that they could get good work, and it was no good saying that the introduction of machinery or the different methods of employment had reduced workmen down to one dead level. They must endeavour to make an effort to get some soul into the work, so that they might at some future time hand on works that would be a pride and pleasure to those who saw them afterwards. But there were other spheres open to builders, and as men of influence in political life and social and municipal life, he was certain that as opportunities arose they would take advantage of them to help architects to regain their former prestige, and to put them in that position in which their abilities would be of value to the nation. When Mr. Rice put before them so eloquently the history of the architecture of past ages he was struck with one thing, *i.e.*, that in modern times we seemed to take it as an accepted fact that works which had been pre-eminently within the domain of the architect had been taken out of his control and placed in the hands of other practitioners without any direction on the part of architects, and it was in the direction of some assistance in that way that he put the matter before them. For instance, the great bridges of the past were designed by architects; they were called engineering works now! A few years ago a Royal Commission on Traffic was appointed for London. If the designs of Sir Christopher Wren for the alignment of London had been carried out the Traffic Commission would not have been required; but the future of London from the traffic point of view was dealt with by this Commission, and the extraordinary thing was that no architect was invited to sit on that Commission or be a member of it, and, as a matter of fact, no evidence on the question of the alignment of the main arteries for the traffic of London had been placed before the Royal Institute of British Architects, and no advice asked—no opinions asked on what he ventured to think was one of the finest, grandest architectural opportunities which could arise in the history of this country. When builders got the opportunity he wanted them to impress upon the various members of Parliament they knew that it might be advisable for such projects, before everything was cut and dried and settled, that the opinion of the poor architect should be asked, and, if possible, some place found for him on such Commissions, or where he could ask questions and make observations. As to the Federation, whatever it did to help on good building, or whatever it did in the way of education, of co-ordination of modern methods of building, they would find in architects as a body encouragement and sympathy. Architects would do all they could to help on the end common to them, *i.e.*, producing works of art and good building which would be a credit both to architects and builders.

Mr. E. J. Brown, President of the National Federation, in response, said it was a great honour to wear the chain of office which was upon him, which had upon it the names of Past-Presidents. The Federation was growing in numbers and strength, but he regretted that there were many builders who stood aloof, and he hoped they would join forces. It was a matter of great regret that these builders should reap all the benefits that resulted from the work of the Federation and did nothing to assist in that work. The Federation had much the same objects as the Institute of Builders and the Master Builders' Association; it had all objects in view which could be of interest to builders. They had as much Parliamentary work to do as they could find time to carry out, and their work was growing in importance, and they were becoming a power in the land. The trade unions showed the way to organise, and masters in London were doing what they could to put their house in order. When trade was bad it was difficult to get masters to join, but trade unions were not troubled in this way; men joined and the union became of great power.

The concluding toast was "The Visitors," suitably proposed by Mr. Frederick Hills and ably acknowledged by Mr. H. J. Treadwell, F.S.I.

CHAPEL OF THE PYX, WESTMINSTER ABBEY.

THIS very interesting building, which the Commissioners of H.M.'s Office of Works opened to the public on Tuesday last, is a compartment of the substructure at the end of the south transept. It consists of two of the seven and a half bays beneath the monks' dormitory—now Westminster School—and belongs to the range erected *temp.* Edward the Confessor (see the plan in our number of January 6, 1894). The substructure, about 110 ft. in total length, is vaulted in two spans and divided with a middle line of massive round columns. The shafts are 3 ft. 6 in. in diameter and 3 ft. 4 in. (or 5 in.) high. Each abacus, a block, 7 to 8 in. deep, has an under moulding in shape of the frustrum of an inverted cone, and the bases correspond with the capitals, but nearly all have been altered, together with the columns, and enriched, in the subsequent subdivision of the original chamber. The columns support a quite plain groining, having squared transverse rib-arches without groin-ribs. The masonry shows the wide joints and marks of the employment of the hand-axe, often seen in contemporary work. The capital of the detached column in the middle of the Pyx Chapel evinces traces of a partition which stood against it; on that side the capital has been rounded off and partly carved with inclined grooves or flutings, on the other side it has been shorn with a rough canting of the angles. Beneath the strongly-barred window of the northern bay is a plain stone altar upon two steps; in the table is cut out a large circular depression. The altar, reputedly the tomb of Hugolin, chamberlain and treasurer of the Confessor, stands in a squared recess, at a corner of which is a piscina, fashioned as a column and apparently of XIIIth century workmanship. This portion of the chamber served for the King's treasure-house from a remote period until it was robbed in May, 1303, by Richard de Podlicote and his men of a vast hoard of money, plate, and jewels, which Edward I. had laid by for his wars against the Scots. The treasure-house was then rendered more secure by walling off the passage of entry on the north side and so reducing its extent to that of the later Pyx-chamber. Since the time of the Restoration the Regalia has been kept in the Tower. The chapel, entered through a door in the east cloister, fitted with seven locks, has of late years been used for the storage of treaties, muniments, Exchequer tally-sticks, etc. In a chest were held the standard pieces and plates used in the periodical "trial of the pyx"; the "pyx" being the box wherein the coins to be assayed are kept at the Mint.

THE LONDON COUNTY COUNCIL.

THE first meeting of the London County Council after the summer recess was held on Tuesday in the County Hall, Spring-gardens, S.W., Sir R. Melvill Beachcroft, Chairman, presiding.

Loans.—It was agreed to lend Greenwich Borough Council 1,000*l.* for erection of stables, etc.; Lambeth Borough Council 11,000*l.* for street improvements; Poplar Guardians 1,563*l.* and 3,882*l.* for poor law purposes; Stepney Borough Council 1,200*l.* for the purposes of Part III. of the Housing Act, 1890; Woolwich Borough Council 1,398*l.* for street improvements, and 7,859*l.* for baths and washhouses. Sanction was given to Wandsworth Borough Council to borrow 1,030*l.* for street improvements, and to Westminster City Council to borrow 3,000*l.* for a street improvement.

Alteration in Designation of Contractors.—The Stores Committee reported as follows:—

"We have to report the undermentioned alterations in the designation of certain contractors for the supply of stores to the Council:—

(i.) Messrs. Macfarlane Brothers, of Roxburgh Works, Scotstoun, Glasgow, altered to Macfarlane & Robinson, Ltd.

(ii.) Messrs. A. L. Thomas & Sons, Ltd., of Dour Iron Foundry, Bridge-street, Dover, altered to the Dover Engineering Works, Ltd."

Housing of the Working Classes: Particulars of Dwellings Provided by the Council.—The Housing of the Working Classes Committee reported as follows:—

"We have had prepared tables showing the amount of accommodation, the rents charged and received, the number and occupation of the tenants, and other particulars relating to the Council's working-class dwellings and lodging-houses for the year ended March 31, 1909. Up to the end of the year 6,428 tenements in block dwellings, 1,768 cottages, and three lodging-houses, affording in all accommodation for 46,310 persons, have been provided by the Council. The interest and sinking fund charges amounted to 49·41 of the gross rent for the year, and the expenditure for the maintenance and management of the estates, including repairs, rates and taxes, water, lighting, etc., to 39·57 per cent., as compared with 38·56 per cent. during 1907-8.

During the year 2,577 tenants removed from the dwellings. This is equivalent to 31 per cent. of the total number of tenements, as compared with 34 per cent. for the year 1907-8. The usual yearly census of the Council's dwellings was taken in March, 1909, and showed that of the 22,210 rooms available for letting in block dwellings and cottages, 20,238 were occupied by 28,335 persons, or an average of 1·4 persons a room, the maximum number allowed by the Council being two persons a room. Of the 1,845 cubicles in the three lodging-houses 1,444 were occupied. The number of cases of overcrowding was twenty-five, or ·3 per cent. of the total number of tenements, and steps were immediately taken to remedy the evil, in most cases by transfer to larger tenements in the Council's dwellings.

The death rate for the year amongst the tenants, exclusive of the occupants of the three lodging-houses, was 8·6 per 1,000. During the year seventeen fires occurred in the dwellings, but the damage done in each case was slight. The expenditure for the year on repairs to the buildings has amounted to 7·71 per cent. of the gross rent."

Presentation Lecture Hall.—The Chairman announced that he had received from Mr. E. J. Horniman, M.P., a letter intimating that he had determined to complete his father's gift (referring to the Horniman Museum and Gardens at Forest Hill) by offering to build a lecture hall to seat 200. He was willing to spend 4,500*l.* on the hall. One of the conditions of the gift was that the architectural design shall be subject to his approval. The Council expressed thanks to Mr. Horniman, whose letter was referred to Committee.

Trade Scholarships.—Various recommendations concerning the scholarship system were discussed, including one to the effect that the number of trade scholarships to be awarded should be gradually increased as the accommodation of the trade schools permits until the number, in addition to those already authorised, reaches approximately 300.

Upon this Mr. Dove moved the addition of the words "without expressing any opinion as to how far the old system of apprenticeship can be revived." His contention was that though the apprenticeship system had almost died out, except in certain indoor trades, there was still a desire on the part of parents in favour of it. He did not wish to criticise the trade scholarships, but he did feel that to a great extent the cost was a waste of money. He attributed the failure of the trade scholarships largely to the fact that many of the individuals who were associated with the management of polytechnics, and who had not themselves had any trade experience, seemed to think that apprenticeship and polytechnics would not go well together. By a carefully prepared system of apprenticeship arrangements might be made whereby children could leave school to enter workshops. However efficient schools were, it was not possible for boys to acquire in them what he would term the "workshop experience." A properly graded system of apprenticeship was needed. It was not fair to expect boys, after their day's work, to attend trade schools. Good tradesmen could not be made by polytechnics alone. It would be much better to have a system of grants so that parents could apprentice their boys in the old-fashioned way.

Mr. H. R. Taylor seconded the addition, expressing agreement with Mr. Dove that it was a hardship that boys should have, after a hard day's work, to attend trade classes.

Mr. Jackson, Chairman of the Council, said he would accept the addition, and the Council acquiesced.

Ground Plan of London.—In reply to a question, Mr. Pilditch stated that the ground plan of London was now almost completed. Of the 115½ square miles which comprised the County of London, 113 had been placed on the plan. Altogether there were 34,600 landowners. Sixty square miles were owned by 187 owners, and the Crown, the County Council, the Ecclesiastical Commissioners, and the City Corporation formed one-third of these 187 owners. Of the remainder, the average ownership averaged one acre per person. A considerable portion of those owned each one house or plot only.

The Sewer Contract Difficulty.—With reference to the tenders for the construction of the southern low-level sewer from Deptford to Battersea, the Main Drainage Committee recommended that new tenders should be invited. As has been reported in the *Builder*, at the last meeting of the Council Messrs. Shellabear & Son, who submitted the lowest tender of 473,416*l.*, withdrew, explaining that this was in consequence of being unable to place the order for cast-iron at the price they anticipated.

Mr. Salmon suggested that the tenders should be for the construction of the sewer in sections.

Mr. Johnson moved an amendment that the Council should do the work by direct labour.

Mr. Smith (Deputy Chairman) seconded the amendment, the course thereby suggested being the best to adopt in view of the existing circumstances of this matter. Not only had the lowest tenderer withdrawn, but the next tenderer had also withdrawn. The Engineer's estimate was known, and under the circumstances it was not advisable to ask for fresh tenders. He would not suggest any conspiracy in this matter, but urged that the Council should decide to do the work by direct labour. They had their manager, who could easily get his staff together. That would be the best course to prevent the Council getting in the hands of a ring. The contractors should be given to understand that it was possible, when there were exceptional circumstances, to do without them.

Mr. Easton said the Committee were able to deal with any unforeseen incidents which might arise with contractors, and there was no justification to use this occurrence as a reason for reintroducing the Works Department, which in the past had been so disastrous for London. The Committee were not going to hand over the Council to the contractors.

Mr. Ward urged that the sewer should be made by direct labour.

Mr. Cohen said he had never been able to understand why the Council published the list of prices tendered by contractors.

Mr. Gilbert spoke of the good work accomplished in the past by the Works Department, which was especially able to carry out sewer work. The Progressives declared that if the Works Department were abolished the Council would fall into the contractors' rings, and this incident seemed to show the truth of that prophecy.

Mr. Taylor (Hampstead) said it was unfortunate that the Council were getting these withdrawals of tenders. He suggested that in future heavy penalties should be imposed on contractors who withdrew. That could easily be carried out by requesting those who tendered to deposit a certain amount of guarantee money with the Council.

Sir John McDougall said, when a man withdrew a tender which was 7,000*l.* below the Engineer's estimate, and the next tender was 25,000*l.* above the estimate, there was a difference of 32,000*l.*—which was a great temptation to make "some little arrangement." These things happened before the establishment of the Works Department, and were happening again now that the Works Department had been destroyed. The contractors now seemed to be taking advantage of the abolition of the Works Department. The Council of the greatest Municipality in the world should take care that there was no chance of the possibility even of gerrymandering with tenders.

Mr. White (Vice-Chairman) explained that in the case of this sewer the point to be remembered was that since the tenders were sent in there had been an excessive rise in the price of iron. There was nothing in the point about the Engineer's estimate having been published. Contractors were not foolish, and did not base their tenders on engineers' estimates, but went carefully themselves into the specifications. He would never support the reintroduction of the Works Department, which in the past had been an extravagant and wasteful department.

Mr. Hunter recalled the fact that on a previous occasion when the Council had to invite fresh tenders all the contractors again sent in prices, and all were lower than their first prices. This fact should indicate that by getting fresh tenders in the case of this sewer it was not likely that the Council would find that the contractors wanted more.

Mr. Robinson declared that nothing had been adduced to indicate that there was any ring of contractors.

Sir John Benn said when the Progressives were in power and a similar instance occurred they got the work done by the Council's own Engineer, and the cost was 66 per cent. below the contractors' prices.

Eventually it was agreed to obtain fresh tenders for the sewer, in sections.

ARCHITECTS' TECHNICAL BUREAU.

[COMMUNICATED.]

A MEETING of the Advisory Committee was held at the Bureau Offices on October 7.

The formation of a Colonial Architects' Bureau was discussed and decided to be proceeded with.

It is proposed shortly to hold a meeting of architects who have been in the Colonies and have special knowledge of Colonial requirements, and the Secretary will be pleased to hear from any who may be willing to attend this meeting.

It is felt that architects in the Colonies are generally very much out of touch with up-to-date building trade matters and materials and fitments, and by affording this information and also in many other ways a Colonial Architects' Bureau could be of great service.

The next meeting of the Selection Committee will be held at the Bureau Offices on Tuesday, November 2. Manufacturers desiring to submit goods to that Committee should communicate without delay with the Secretary, Technical Bureau Buildings, 24, Hart-street, Bloomsbury, W.C.

Architectural Societies.

NORTHERN ARCHITECTURAL ASSOCIATION.

An outdoor meeting of the Northern Architectural Association was held on Saturday last in the neighbourhood of Denton. There were upwards of thirty members and students present, including Mr. G. T. Brown, the President. The party assembled at Scotswood Council Schools, where Mr. Graham, the Clerk of Works to the Newcastle Education Committee, explained various matters of interest in the unavoidable absence of the architects, Messrs. Fenwicke and Watson. On leaving the schools the party proceeded to Denton Hall, which is a most interesting example of early XVIIth century domestic architecture and contains many features of particular interest to architects. On arrival at the Hall members were received by Mr. Forster Armstrong, who is now in residence at the Hall, and who gave a most cordial welcome, and explained the many features of interest in the Hall. After a careful inspection of the house and gardens the party were entertained by Mr. Armstrong, who was accorded a hearty vote of thanks.

TRINITY COLLEGE, CAMBRIDGE.—On Tuesday, October 19, will be unveiled in the ante-chapel the statue of the late Lord Tennyson which Mr. and Mrs. H. Yates Thompson have presented to the college. The sculptor of the statue is Mr. Hamo Thornycroft, R.A.

OCTOBER 16, 1909.

TO CORRESPONDENTS.

NOTE.—All communications with respect to literary and artistic matters should be addressed to "THE EDITOR" (and not to any person by name); those relating to advertisements and other exclusively business matters should be addressed to "THE PUBLISHER," and *not* to the Editor.

All communications must be authenticated by the name and address of the sender, whether for publication or not. No notice can be taken of anonymous communications.

The responsibility of signed articles, letters, and papers read at meetings rests, of course, with the authors.

We cannot undertake to return rejected communications; and the Editor cannot be responsible for drawings, photographs, manuscripts, or other documents, or for models or samples, sent to or left at this office, unless he has specially asked for them.

All drawings sent to or left at this office for consideration should bear the owner's name and address on either the face or back of the drawing. Delay and inconvenience may result from inattention to this.

Any commission to a contributor to write an article, or to execute or lend a drawing for publication, is given subject to the approval of the article or drawing, when received, by the Editor, who retains the right to reject it if unsatisfactory. The receipt by the author of a proof of an article in type does not necessarily imply its acceptance.

N.B.—Illustrations of the First Premiated Design in any important architectural competition will always be accepted for publication by the Editor, whether they have been formally asked for or not.

TERMS OF SUBSCRIPTION.

"THE BUILDER" (Published Weekly) is supplied DIRECT from the Office to residents in any part of the United Kingdom at the prepaid rate of 19s. per annum, with delivery *by Friday Morning's Post* in London and its suburbs.

To Canada, post-free, 21s. 6d. per annum; and to all parts of Europe, America, Australia, New Zealand, India, China, Ceylon, etc., 26s. per annum.

Remittances (payable to J. MORGAN) should be addressed to The Publisher of "THE BUILDER," 4, Catherine-street, W.C.

MEETINGS.

FRIDAY, OCTOBER 15.

Architectural Association Debating Society.—Debate on "Competitions, Open *v.* Limited." 7.15 p.m.

Junior Institution of Engineers.—Visit to the Model Engineer Exhibition, Horticultural Hall, Westminster. 7 p.m.

Institute of Metals.—Autumn meeting, Manchester (concluded). 10 a.m.

Royal Sanitary Institute (Lectures for Sanitary Officers).—Dr. E. J. Steegmann on "Elementary Science: Physics, Chemistry"—III. 7 p.m.

Institution of Mechanical Engineers.—Professor W. E. Dalby on "Heat Transmission." 8 p.m.

SATURDAY, OCTOBER 16.

Institution of Municipal Engineers.—Visit to Works of the Associated Portland Cement Manufacturers (1900), Ltd., at Northfleet.

Incorporated Association of Municipal and County Engineers.—South Wales District Meeting, to be held at Cardiff.

MONDAY, OCTOBER 18.

Royal Sanitary Institute (Lectures for Sanitary Officers).—Dr. E. J. Steegmann on "Elementary Science: Physics, Chemistry"—IV. 7 p.m.

Junior Institution of Engineers (Royal United Service Institution, Whitehall).—Annual general meeting at 7 p.m., followed by annual general meeting of the Benevolent Fund. At 8 p.m., a paper on "The Reinforced Concrete Construction of the new General Post Office Buildings, London," by Mr. T. A. Watson, Assoc.M.Inst.C.E.

TUESDAY, OCTOBER 19.

University of London (Carpenters' Company University Lectures on Architecture).—Mr. Halsey Ricardo will deliver the Public Inaugural Lecture of his course on "The Renaissance of Architecture in Italy." 6 p.m.

University Extension Guild (British Museum).—Lectures on Ancient Architecture, by Mr. Banister Fletcher. III.—"Egyptian Temples, Obelisks, and Dwellings"—II. 4.30 p.m.

Institute of Sanitary Engineers, Ltd. (Students' Lecture).—Mr. G. W. Chilvers on "Building Construction, so far as it relates to Sanitation." 7 p.m.

WEDNESDAY, OCTOBER 20.

Builders' Foremen and Clerks of Works' Institution.—Quarterly meeting of the members. 8 p.m.

Royal Sanitary Institute (Lectures for Sanitary Officers).—Dr. E. J. Steegmann on "Elementary Science: Physics, Chemistry"—V. 7 p.m.

THURSDAY, OCTOBER 21.

Carpenters' Company, London-wall (Lectures on Sanitary Building Construction).—Mr. A. Wynter Blyth on "Sanitary Arrangements of a Building." 7.30 p.m.

FRIDAY, OCTOBER 22.

Glasgow Technical College Architectural Craftsmen's Society.—Mr. T. L. Watson on "The Autobiography of a Cathedral." 8 p.m.

The Architectural Association.—Mr. F. D. Clapham on "The Architectural Association Excursion to Cheltenham and District, 1909." 7.30 p.m.

Royal Sanitary Institute (Lectures for Sanitary Officers).—Mr. W. C. Tyndale on "Calculation, Measurements, and Plans and Sections." 7 p.m.

SATURDAY, OCTOBER 23.

Junior Institution of Engineers (Caxton Hall, Westminster).—Conversazione. 7 p.m.

THE GRADIOGRAPH.

THIS is the name of a new instrument now being introduced by Mr. A. G. Thornton, of Manchester, for the purpose of reducing the labour involved in drainage work, road construction, and other operations involving the execution of work to a given gradient.

The instrument is essentially an adjustable spirit-level of special design and construction, by whose aid any gradient between the limits of 1 in 30 and 1 in 305 can be accurately read. It can also be applied as an ordinary level by a slight adjustment.

The gradiograph consists of a rectangular casing, 36 in. long by 3 in. wide by 1 in. thick, made of nickel aluminium, a white non-corrosive alloy combining extreme lightness with great durability. The interior of the casing is accurately machined, and fitted with a graduated steelyard working on a pivot near one end. Above the pivot and connected with the steelyard is a sensitive level similar to those attached to surveying instruments. The calibrated portion of the steelyard is provided with a gunmetal cursor, with hardened steel runner, and at the extreme end of the steelyard there is a notch permitting the instrument to be employed as a very accurate level when the cursor has been moved beyond the graduated scale.

To arrange the instrument so as to indicate any required gradient within the range of the scale it is only necessary to set the zero line of the cursor opposite the gradient in question. The bubble will then come to the centre of the tube as soon as the instrument is inclined to the predetermined slope. Having effected an adjustment such as that indicated, the cover of the casing, which slides in V-shaped grooves, can be put back into place and secured by means of a Yale lock, thus making the apparatus watertight and preventing the workman using it or any unauthorised person from tampering with the interior mechanism. Feet of case-hardened steel are fitted to the under side of the casing, and slightly curved in order that the apparatus may stand on the invert of a pipe. The bubble of the level is visible through a piece of crystal glass let into the top of the casing, the whole instrument being supplied in a mahogany box.

We have examined and tested a specimen of the gradiograph, and consequently are able to speak from personal experience upon the excellence of its manufacture and the accuracy of the readings obtained. The principal advantages claimed for the appliance in drainage and sewage work are the following:—It is applied on the invert of the pipe, thus giving an index to the gradient along the actual surface of the conduit, and it is specially suited for use in cases where pipes are laid in a heading; drains and sewers laid by its aid have exactly the same fall throughout, thereby insuring a perfectly self-cleansing conduit; any irregularities on the invert, at the spigot or socket of the pipe, can be at once detected and suitably allowed for; work can be conducted at any time instead of being interfered with during fog or darkness, as under the ordinary method of boring; sight rails and the travelling rod are entirely dispensed with, the work of adjusting and aligning the pipes being done by one man instead of three men as necessary heretofore.

The instrument is available for various other purposes coming within the province of architects, surveyors, and engineers, to whom, as well as to contracting firms, we can recommend it as a useful labour-saving appliance.

COURT OF COMMON COUNCIL.

A MEETING of the Court of Common Council was held at the Guildhall on Thursday last week, the Lord Mayor presiding.

Street Paving.—Mr. Samuel Alderton moved that the Streets Committee be requested to report fully as to the recent repaving of Gresham-street. He asserted that streets were torn up before there was any necessity for it. Even if a street did not require renewal, it was, to the detriment of traders, and at great expense, torn up when the period of the contract for maintenance expired. Mr. Stopher, the Chairman of the Committee, in his reply, denied that this was so. A thoroughfare often became so full of hills and dales that efficient repair was out of the question, and complete renewal was necessary.

Leadenhall-street.—It was agreed, on the motion of Mr. Deputy Pearse Morrison, to instruct the Improvements and Finance Committee to report fully, after making exhaustive inquiries, as to the desirability or otherwise of widening Leadenhall-street at the eastern end, a portion of the roadway there being only 17 ft. wide.

Dangers of Match-boarding.—A letter was received from the City of London, relative to an inquest held concerning a fire at No. 14, London-wall, on September 17, enclosing a copy of their verdict, to the effect that the fire started in the lift, but that the cause is unknown, and that the jurors strongly recommend that all businesses of a dangerous nature should have no match-boarding to walls or lifts. The matter was referred to the Streets Committee.

Proposed Improvements at the Guildhall.—A report was brought up, but its consideration adjourned, by the City Lands Committee as to the general improvement of the accommodation at Guildhall, suggesting the erection of an addition of three stories over the library corridor on the east side of the porch, together with the opening up and clearing of the crypt (to render it suitable for use as an adjunct to the museum), and further suggesting the utilisation of certain vaults under Guildhall as Bridge House strong-rooms for the Comptroller, at an estimated cost of 3,800*l.*

Presentation to the Art Gallery.—The Library Committee reported the presentation, by Mr. Joseph Pennell, to the Art Gallery of thirty-one etchings by himself of well-known places in London.

Fifty Years Ago.

FROM THE *Builder* OF OCTOBER 15, 1859.

METROPOLITAN BOARD OF WORKS.

EMBANKMENT OF THE THAMES.

AT a meeting of the Board on the 7th, Mr. Doulton, pursuant to notice, moved—

"That the consideration of the propriety of constructing a Thames embankment, in conjunction with the low-level sewer on the north side, be referred to the Main Drainage Committee, and they may be authorised to confer with her Majesty's Government and the Admiralty on the mode in which the cost of such embankment might be defrayed, and with the Thames Conservancy Board thereon."

He said that his motion would not pledge the Board to adopt the idea of the embankment of the Thames. It merely was his opinion that the Board should have full information upon the subject.

Mr. Bristow, M.P., seconded the motion. It was a most important matter for the Board to have the fullest information relating to it.

Mr. Alderman Cubitt suggested that the Admiralty should be consulted.

Mr. Alderman Humphery considered that the embankment of the Thames was altogether impracticable. However, he thought information might be usefully gleaned upon the subject.

Mr. Tite, M.P., expressed the same opinion.

After some further discussion, in which Messrs. Freeman, Taylor, Hughes, D'Iffanger, and Carpmael took part, the motion was carried unanimously.

*** This appears to have been the first public intimation of the idea of the Thames Embankment being entertained. It will be seen that one of the members declared it to be "impracticable."—ED.

Illustrations.

THE NEW NAVE, HEXHAM ABBEY, NORTHUMBERLAND.

THESE drawings were exhibited at the Royal Academy Exhibition. The work was carried out from the design of Mr. Temple Moore. The consecration took place on August 8 of last year.

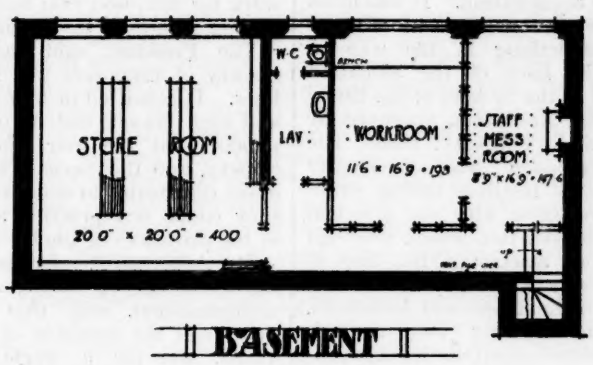
In accordance with the existing remains of the nave, namely, the south and west walls, to the height of about 15 ft., with the south and west doorways, which were sufficiently sound to warrant their complete restoration, the Late Decorated style has been adopted. The plan is one-aisled, the arrangement usual in the churches of the Augustinian Canons. It will be noticed that the eastern-most of the six arches which compose the nave arcade is lower than the others, as it was here necessary to pierce one of the tower buttresses. Restorations have also been carried out in the choir—which had been much damaged by injudicious restorations about forty years ago. Excavations revealed the lower courses and foundations of the apse of the earlier Saxon church, and eastward of this were discovered traces of a larger and later Norman apse; in order that these interesting remains might be seen by visitors, a shallow basement has been formed, with a trap-door entrance from the choir. The traceried panels of the wooden closed choir-screen, which would have completely isolated the nave from the choir, have been hung on hinges, so that they may be opened inward during divine service.

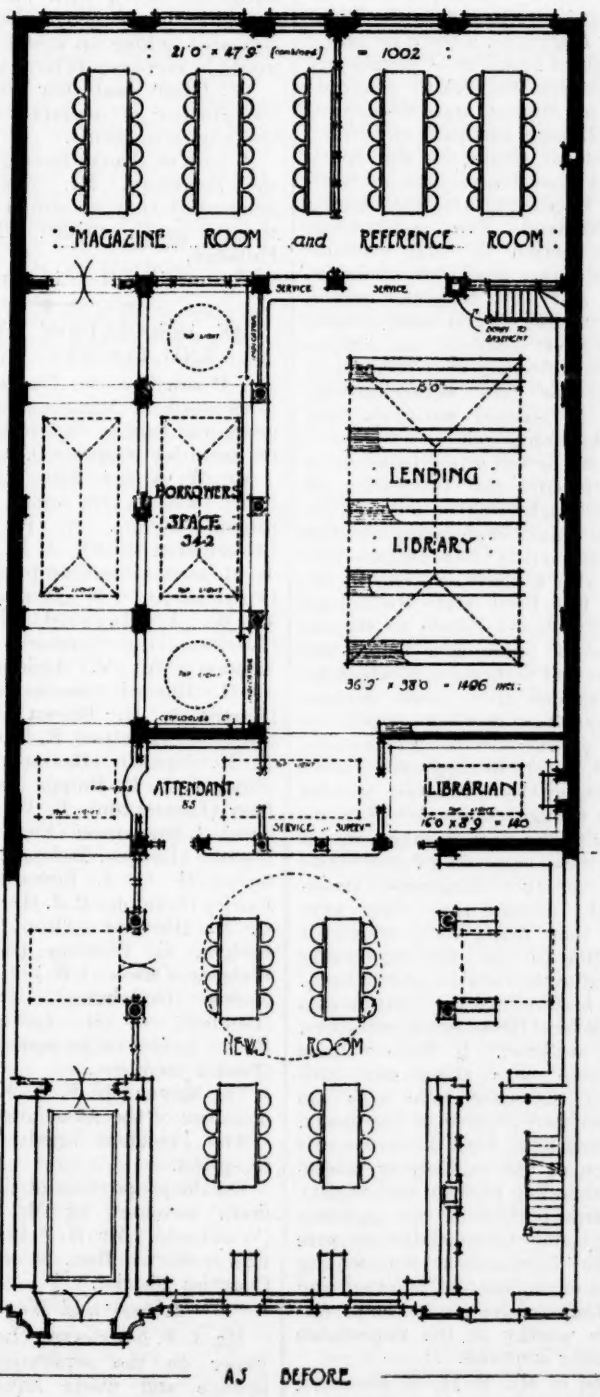
DEPTFORD BRANCH LIBRARY.

WE give this week illustrations of the design by Messrs. Castle & Warren, selected in competition for the new Branch Library at Deptford.

Concerning their intention in the design, the architects write:—

"Our object, in the first plan, was to shorten the main corridor as far as possible, with a view to reducing the traffic way to a minimum, but it is possible that the alternative plan will be adopted on account of the simpler arrangement of the magazine and reference rooms The lavatories are thus placed in the basement, which is more desirable.





Deptford Branch Library: Alternative Plan.

The plan is generally based on simple lines, with a view to ease of control and supervision. The attendant is placed so as to control the hall and the news-room, with direct access to the lending library."

We understand that the architects have had an interview with the Library Committee this week, and it has been decided to commence the work without delay.

DESIGN FOR MODELLED LUNETTE.

THE bas-relief for a Lunette in an Art Gallery is the work of Mr. W. H. Wright, of the Nottingham School of Art, and received a gold medal in the last National Art Competition.

The subject of the design is "Art." The size of the model is 6 ft. by 3 ft., being one the quarter the full size intended in execution. The central figure holding a model of a temple represents "Architecture." "Sculpture" and "Pottery" are represented in the groups on the left, and "Painting" and "Music" on the right. The man on the left of "Architecture," with hammer and anvil, represents metalwork.

CIVIL AND MECHANICAL ENGINEERS' SOCIETY:

PRESIDENTIAL ADDRESS.

ON Thursday last week, in Caxton Hall, Westminster, Mr. W. Noble Twelvetrees, M.Inst.M.E., delivered his Presidential address to the members of the Civil and Mechanical Engineers' Society. He said that the Society, which had just completed the first half of its life as a technical organisation, was in a very sound position, but in spite of that it was proposed to join forces with the Society of Engineers. The two projects were virtually one, resulting from the deliberations of the Joint Committee of the two Societies under the Chairmanship of Professor Henry Adams, and which foreshadowed the incorporation of an entirely new organisation, to be entitled the Society of Engineers (Incorporated), empowered to take over the work and property of the Society of Engineers founded in 1854 and of the Civil and Mechanical Engineers' Society founded in 1859. The incorporated Society would not arise from the ashes of two defunct bodies. It would come into existence by the voluntary union of two associations full of vitality, drawn together by similarity of aim and by the firm belief that united effort would be to the advantage of all concerned. It was the hope of the Council that the scheme of incorporation would be carried through, though they were fully prepared to continue alone with absolute confidence. He desired to express the indebtedness of the Society to the Honorary Secretary and fellow-member, Mr. A. S. E. Ackermann, for the great amount of work he had performed in preparing for consideration drafts of the rules and by-laws intended to govern the operations of the incorporated Society, and for the tactful manner in which he had acted as the official intermediary between the two organisations concerned. He (the President) had pleasure in directing attention to the valuable work done by Professor Henry Adams, a Past-President of both Societies, and by Mr. R. H. Willcocks, who had acted as our Honorary Solicitor for a long period of years. The Memorandum and Articles of Association, embodying the constitution of the new Society, were drafted, like those of the Institution of Mechanical Engineers, the Institution of Electrical Engineers, and other important institutions, in accordance with the provisions of the Companies Acts, the object gained by taking advantage of those statutes being the assured legal status of the association indicated. In the title "The Society of Engineers (Incorporated)" they had a permanent record of the fact that a new Society was about to be brought into existence.

The objects of the proposed corporation as defined in the Memorandum of Association needed no comment, for they were virtually

the same as those which had been consistently before the Society of Engineers since December, 1857, and the Civil and Mechanical Engineers' Society since May, 1859. An important point to be noted, however, was that the incorporated Society would possess legal rights never enjoyed by either of the informal associations. Turning to the Articles of Association, he might mention first that four classes of corporate members and one class of non-corporate associates were contemplated, instead of three classes as heretofore. The class of members was retained; existing associates were eligible for election into the new class of associate-members—a new class of associates being formed for those not qualified professionally or by reason of age for the privileges of corporate membership; the new class of fellows provided a mark of distinction for members qualified by adequate professional training and experience and by examination, the only exceptions contemplated being those in favour of Presidents and Past-Presidents and members of Council; the new class of honorary fellows superseded that of honorary members, and involved no change beyond a slight alteration of style. The proposed creation of fellows was one distinctly calculated to benefit the incorporated Society, because it would establish a class of members known to have complied with recognised standards of general education, technical knowledge, and personal experience. The growing recognition of engineering institutions and societies by Government departments and public authorities was certainly a strong reason for the establishment by the proposed incorporated Society of the special class of members qualified by examination as well as by engineering training and experience.

Passing next to the constitution of the Council of the incorporated Society, he was pleased to say that, owing to the large number of new members elected to the Civil and Mechanical Engineers' Society during the past two years, the Society had become entitled to a very strong representation, comprising four ordinary members of Council and two Past-Presidents—the former chosen by seniority of election to our present Council, and the latter being the two last Presidents of this Society. A further satisfactory detail was that one of the members of the present Council had been nominated by the two Councils as one of the Vice-Presidents. An additional illustration of the equitable manner in which the interests of the Society had been studied was furnished by the clauses entitling all members and associates of this Society to become corporate members of the incorporated Society without entrance fee, and during the first three years to pay lower annual subscriptions than those stated in the general schedule.

By entering into the arrangement proposed they would give up nothing but their separate existence, which also would happen to the Society of Engineers, and thereafter the members of both associations as existing to-day would be jointly the founders of the new corporation which there was every reason for believing would soon justify its right to be classed among the great institutions representing the engineering profession in this country.

He could not avoid the conclusion that if carried into effect the union of the two organisations concerned would be an unmixed blessing. It would constitute the first important step towards the alliance of engineering societies having the same objects in view—a consummation whose desirability was urged in his address of last year. The position of the engineering profession to-day was such that it would not be fully represented by any one of the existing institutions. The scope of the Institution of Civil Engineers was sufficiently catholic for the inclusion of all engineers possessing the requisite qualifications. Separate institutions representing one profession would continue their separate existence, but there was no reason why independent organisations should not enter into bonds of union one with another, for the purpose of furthering the good work conducted by all.

He took the opportunity of advocating once more the effective co-operation of engineering institutions and societies. It was very easy to suggest ideas of the kind, and very difficult to get them carried out. Such a task was immeasurably beyond the power of any one organisation. It was quite possible, however, for one energetic Society to accomplish something in the way of unification on the lines of the affiliation scheme embodied in the by-laws of the Royal Institute of British Architects, approved by the Privy Council in February, 1889. The architectural profession was excellently organised, the Royal Institute having established intimate relations with the principal local institutes and societies, which, although not creating a vast association like that of the German Society of Engineers, or the Austrian Society of Engineers and Architects, nevertheless went a long way towards securing the effective union of the organisations concerned. The only action of similar character with which he was acquainted was that which brought into existence the Institution of Mining Engineers, a body including the North of England Institute of Mining and Mechanical Engineers, the North Staffordshire Institute of Mining and Mechanical Engineers, the Midland Institute of Mining, Civil and Mechanical Engineers, the South Staffordshire and East Worcestershire Institute of Mining Engineers, and the Mining Institute of Scotland. The constitution left independent action to each institute as before, but all papers read were published in one journal, and each institute paid a capitation grant to the central body, which, comprising some 3,000 members, was able to deal with matters affecting the interests of mining engineers far more authoritatively than a number of isolated institutes each with a small membership roll.

The examples set by the Royal Institute of British Architects and the Institution of Mining Engineers might well be followed by the alliance of the many engineering societies existing in various parts of Great Britain with each other and with a central Society in the metropolis. If the Civil and Mechanical Engineers' Society should decide to abstain from the scheme of union now before the members, the work of unification to which he now alluded was one that would deserve serious consideration. But it could be attempted with greater prospects of success by the proposed Society of Engineers (Incorporated). Assuming the foundation of that organisation, he thought there should be no serious difficulty in the way of linking up all unattached provincial associations as societies allied with the Society of Engineers (Incorporated). At the present time there were probably more than thirty local bodies of the kind. Adding to these the engineering societies attached to universities and colleges, they had ample material for the creation of a combination of several thousands of members, associates, and students. If these various organisations were once allied one with another, and at the same time with the proposed incorporated Society of Engineers, a great step would have been taken towards the consolidation of the engineering profession. The commanding position of a Society embodying a large portion of the engineers of Great Britain should facilitate the ultimate alliance of the institutions representing special branches of engineering practice, and lead at last to the organisation of the profession on a scale worthy of the importance which it had justly acquired.

On the motion of Mr. E. H. G. Brewster, seconded by Mr. J. Kennedy, member of Council of the Society of Engineers, a hearty vote of thanks was accorded to the President for his address.

Subsequently some discussion took place bearing on the President's address, in which Messrs. Thomas, E. F. Etchells, A. S. E. Ackermann (Secretary), and C. Grant took part.

Mr. Etchells, referring to the President's remarks as to the allied Societies of the Royal Institute of British Architects, said he thought engineering societies should be linked up on specialist lines rather than on geographical lines. The architect stood between the artist and the engineer and linked up the two, and there was but one general branch of work for him, and that was certainly not the case in regard to the engineering profession.

The President said that the Canadian Society of Engineers was founded on those lines. It consisted of four Societies in itself, and each branch had its own meetings and papers; but the four constituted the one Society, and this Society was empowered to grant certificates to engineers, without which they could not practise as civil engineers in the provinces of Quebec and Manitoba.

Mr. Ackermann, referring to the voting of the members of the two Societies as to amalgamation, said that already over a quarter of the members of the Societies had voted, and not a single vote had been recorded against the scheme. He did not altogether agree with Mr. Etchells, as he thought that a geographical as well as a specialist linking up would be desirable, as it would be necessary to have local branches still.

Mr. Grant said they should break down the practice of manufacturing firms giving free advice to clients.

A vote of thanks having been accorded to the Secretary, Mr. Ackermann, it was announced that he would read a paper on the 4th prox., entitled "Technical Popular Fallacies."

The meeting then terminated.

THE ASSOCIATION OF MUNICIPAL AND COUNTY ENGINEERS.

A HOME Counties District meeting of the Association of Municipal and County Engineers was held at the Guildhall, Winchester, on Saturday, October 9.

Mr. W. Nisbet Blair, St. Pancras (President), was in the chair, and there were present—Messrs. H. P. Boulnois (Local Government Board), A. E. Collins (Norwich), J. Lemon (Southampton), W. Weaver (Putney), C. H. Cooper (Wimbledon), T. W. A. Hayward (Battersea), S. H. Chambers (Hon. Secretary), T. Cole (Secretary, London), W. V. Anderson (Winchester), J. H. Blizard (Southampton), W. Butler (Fareham), R. Brown (Southall), G. E. Carter (Winchester), E. H. Crump (Hinckley), N. H. Dawson (Banbury), W. W. Cooper (Slough), F. R. Phipps (Basingstoke), F. H. Parr (Lymington), F. W. Pearce (Twickenham), J. Stevenson (East Molesey), H. Shillington (Lurgan, Ireland), W. J. Tail (Sudbury), H. C. J. Edwards (Lambeth), W. Fairley (London), P. J. Harrison (Dorchester), G. B. Hartfree (Alton), F. Harris (Tonbridge), G. Winship (Abingdon), J. W. Webster (Cowes, I.W.), P. J. Killick, J. H. Norris (Godalming), J. P. Norrington (London), C. H. Lawton (Warminster), F. J. Lobley (Chichester), S. J. Newman (Poole), members.

The Mayor (Mr. F. W. King) welcomed the members of the Association to the City.

The President briefly acknowledged the reception.

On the proposition of Mr. Cooper (Wimbledon), seconded by Mr. W. V. Anderson (Winchester), Mr. H. S. Chambers (Hampton) was re-elected Hon. Secretary for the Home Counties District.

Sewage and Waste Liquors.

Mr. J. P. Norrington (London) presented a paper on the separation of solids from sewage and waste liquors. In the Fifth Report of the Royal Commission on Sewage Disposal, he said, it was clearly demonstrated that of all the processes for the treatment of sewage which were commonly in use to-day that which cost the least in up-keep had for its preliminary process quiescent settlement without chemicals. On

the other hand, the initial cost of the tanks required was higher than all but one of the five preliminary processes compared in the Report. The area of filter required, however, to follow the preliminary quiescent settlement tanks was found, as a rule, to be considerably less than with most of the other processes; in other words, the greater the percentage of suspended solids removed the larger was the volume of sewage that could be treated on the same area of filter; in fact, throughout the Report the elimination of the suspended matter from sewage before allowing the flow to pass on to the filters or into a stream, or by way of storm-water overflows, was considered a matter of the highest importance. Any means, therefore, which could be successfully and economically adopted for the removal of the suspended matter were well worth their consideration. If at the same time they facilitated the handling of the solid matter or sludge, that would also be of advantage.

His object was to bring before their notice one or two arrangements for attaining these ends which were being successfully worked on the Continent and in this country.

The first of these, like many other good as well as indifferent things, came from Germany, and was known there as the Kessel, the name probably being derived from the boiler-like shape of the apparatus. Its main feature was a vertical cylinder with an inverted cone-shaped bottom and a cone-shaped or domed top. This was fixed on wrought-iron or brick supports above the level of the flow of sewage to be treated. The apparatus was so arranged that the flow was siphoned through this cylinder with a loss of 2 or 3 in. only in the level of the sewer.

The action of the apparatus was as follows:—The large cylinder, or Kessel, having first been filled with water, and the three chambers into which the legs of the siphons were conducted filled sufficiently to trap the legs, and the valves in the legs opened, siphonic action at once commenced, and the sewage, finding its way into the inlet chamber, passed up into the Kessel. The shape of the inlet pipe deflected the solids in suspension towards the bottom of the inverted cone, and the coarser and heavier solids at once found their way through the deposit pipe into the centre chamber; the lighter solids, on the other hand, rose to the top of the Kessel, while the liquid still carrying a large proportion of fine solids in suspension commenced to gradually rise in the Kessel. These finer solids were gradually dropped during the slow upward rise of the sewage in the large cylinder or Kessel, and before the level of the outlet connected to the long arm or discharge pipe was reached practically all the solids in suspension had been left behind, and the effluent leaving by the discharge pipe was quite free therefrom.

The heavier solids, on reaching the bottom of the Kessel, were diverted by the inverted cone-shaped bottom to the central or deposit pipe, and through this into the chamber. This latter might be extended to a size sufficient to hold any desired quantity of solids. It was a curious fact that as this chamber filled with the solids the liquid portion of the contents passed out through the same pipe by which the solids entered; consequently this chamber might be worked until the percentage of liquid left was sufficiently small to enable the solid contents to be handled with comparative ease.

The section of the suspended solids which had a less specific gravity than water accumulated on the under side of the dome cover of the Kessel, and were easily withdrawn therefrom by opening the discharge pipe for gas and fat, closing the valves in the three siphon legs, and turning on the water supply.

The liquid portion freed from solids in suspension passed off through the effluent carrier, either to filters or land. The rate of discharge through the effluent carrier was in exact proportion to the flow entering the inlet chamber. With some sewage the treatment by the Kessel was sufficient to admit of its being passed direct into a stream.

He was of opinion that it was desirable to treat in a similar manner all sewage where it was now discharged in a crude state into the sea, as it was scarcely possible to find any important seaside resort without a sewage outfall far too close to the beach set apart for bathing.

The quantity which could be treated depended upon the size of the Kessel used and the nature of the sewage, and would vary from a flow which would produce an upward motion over the whole sectional area of the Kessel of half to one millimetre per second, or, put into English measure, from $1\frac{1}{4}$ to $2\frac{1}{2}$ in. per minute. A Kessel with a diameter of 8 ft. would deal with from 2,000 to 4,000 gallons per hour, a diameter of 30 ft. 25,000 to 50,000 gallons per hour. The height was, of course, limited by the atmospheric pressure as compared with specific gravity of the liquid dealt with—that was from 27 ft. to 30 ft.

With regard to the results obtained from this class of installation, analyses showed that with waste from a paper factory 75 to 90 per cent. of suspended matter was eliminated, according to the rate of flow, whereas with slaughter-house refuse as much as 99·7 of the solids in suspension and 99·6 of fat was removed.

With an ordinary domestic sewage about 70 per cent. of the solids in suspension were removed.

These results compared very favourably with those given in the Royal Commission's Report. The best examples given of results from treatment by sedementation lands showed a removal of about 50 per cent. of the suspended solids from tanks which held as much as from ten to fifteen hours' flow.

The second type of separator consisted in its essential features of a shallow grit chamber followed by a comparatively small and shallow tank, the capacity of the grit chamber being sufficient to steady the flow of sewage and admit of the grosser and heavier solids sinking and the lighter solids rising. The exit for the grit chamber to the shallow tank following it was kept well below the surface, and the flow passing forward contained only the more finely divided solids in suspension, the specific gravity of 99 per cent. of which would be found to be slightly in excess of water in almost all sewages.

In the somewhat larger area of the tank these finer solids sunk to the bottom if the outlet from the tank was arranged so as to avoid any movement in the liquid, the velocity of which was sufficient to carry the finely divided solids forward with it. To put it in other or more familiar words, there must be no movement in the tank with what they would call in a sewer "a self-cleansing velocity."

The method by which this was attained was by dividing the flow from the tank over the edges of a large number of small channels, placed on the surface, all of which were set truly level the one with the other. The flow was thus divided over what might technically be said to be a very long length of weir. The velocity of the approach to the weir was so low that even the finely divided solids were left behind if their specific gravity was the least in excess of water.

In larger plants the shallow tank was divided into sections for the better regulation of the flow through same. Both the grit chambers and the shallow tanks were fitted with floors and draw-off pipes, especially designed for the easy removal of the solids.

Some remarkable results had been obtained with a plant of this type at Dorchester, where at least 25 per cent. of the total volume of the sewage was brewery refuse. The proportion of suspended solids removed from the crude sewage in this manner was as high as 96·5 per cent., and at the same time the purification effected on the albuminoid ammonia figure was 74 per cent., and on the oxygen consumed figure 89·9 per cent., and that with filtration of any description.

Such results compared very favourably with those produced by many complete installations of tanks and filters. If equally good results could be obtained from a weak or dilute sewage, it appeared to him that subsequent filtration or treatment of any kind was superfluous.

Another very considerable advantage, especially in small town installations, was that this type of plant enabled the solids or sludge to be dealt with day by day, instead of allowing it to accumulate until the volume was so great that to deal with it entailed the employment of a considerable amount of extra labour. Taking it day by day, a single caretaker, at a small town installation, could easily do all that was necessary.

The principle involved in both these types of separators was that after the water had done its work of transporting the polluting solids from the house to the spot where they could be dealt with the sooner it was separated from the sewage solids the better. This was especially so in districts such as Winchester, where the water was from the chalk, and consequently hard. The amount of dissolved impurities taken up in solution by the water used for conveying the sewage would be very small with a plant of this sort, through which the whole flow passed in less than an hour, compared with a sedimentation or septic tank, the capacity of which varied from fifteen to thirty hours' flow.

Another point which strongly appealed to him was that the manurial value of the solids separated was correspondingly increased, as it had always appeared to him that the septic treatment of sewage had actually destroyed material that could far more usefully be used on the land.

Mr. H. P. Boulnois (Local Government Board) said he had never heard or seen the Kessel tank before, but it struck him there were merits in it. There were difficulties in ordinary tanks of being certain of the deposit of the sludge, but it was evident that given a very slow velocity of flow they were bound to deposit the sludge at the base of the tank. They would like to know the minimum velocity of flow necessary to produce this effect. There was one point that interested them more than any other, that was the cost of construction. The cost of working was practically nil, the cost of repairs was not excessive, and, therefore, the primary cost was the important matter. What had struck him was the small head they wanted between the legs of the syphon. In the construction of a thing of this kind great care would have to be exercised to prevent the introduction of air, as air would be fatal. There was always in sewage and water a considerable amount of air, and he was afraid in time air would accumulate above the siphon, and the machine would cease to work. He thought it was one of the most interesting additions to their knowledge of the sewage problem that had come to his knowledge for some time past.

Mr. A. E. Collins (Norwich), who seconded the vote of thanks, said he had never seen any suggestion of treating sewage in this way before, and it appeared to him it was an advance in tank treatment. What interested him was that not only with the Kessel, but the Commins separator, the attempt which was made to treat sewage on suitable lines, instead of storing sewage and letting it get rotten they were trying to deal with it in the freshest manner, and instead of accumulating the sewage to rot they were trying to get it out of their tanks as quickly as possible. Both these apparatus were steps in the same direction, and he thought they would lead to successful results.

Mr. J. Lemon (Southampton) said he could not help thinking after his long experience that the question of the quantity of sludge in sewage had been very much exaggerated and over-estimated. He was giving evidence before a Committee of the House of Commons on one occasion, and a country gentleman,

who did not know very much about town sewage, asked him if he could define what domestic sewage was, and he then endeavoured to do so by saying that if they had a large butt containing 120 gallons of water, and put into it the excreta of five persons, they would have town sewage. They must add the detritus which they got in a separate system from the washing of roofs and yards and roads. He thought that the heavier solid matter could be removed by the ordinary form of a shallow detritus tank. Then they came to the other matters in suspension. This is a very ingenious arrangement for dealing with that question. Then as to the size of the separator. Dealing with the other apparatus, he found on the plate that a tank 33 yds. by 18 yds. would treat 30,000 gallons an hour; that worked out at 720,000 gallons per day, practically the dry weather flow of Winchester. He questioned whether that was going to be successfully accomplished in a small apparatus 33 yds. by 18 yds. It was the endeavour of all engineers, of patentees, and designers to reduce the size of the works as small as possible to show the world what could be done in a very small space. He disputed that basis altogether. If they wanted proper filtration Mr. Boulnois hit the key of the position when he said that the velocity of the flow was the main point. All these attempts to filter water in a quick way were absolutely fallacious.

Mr. R. Brown (Southall) thought this apparatus might be useful for the treatment of waste liquors from factories. Looking at the model, he thought it required careful thought before one could say it was going to be a success or otherwise.

Mr. W. Fairley (Westminster) said it appeared an exceedingly ingenious method of carrying out the operation. At the same time he should require a little more convincing on a practical scale, for this reason—if they took an apparatus such as this and constructed on a large scale, and they had got to maintain it absolutely airtight, it was a very difficult task. Anyone who had anything to do with mechanical engineering knew how difficult it was. Minute leakages occurred at joints and other places, and there was very great difficulty. There were a great many joints going through the section of this apparatus which it was almost impossible to get made tight if the apparatus was made on a large scale. There was no question of deposit of solid matter in sewage. It was purely a matter of velocity. Was there anything different in this apparatus, given it had the cubic capacity and the velocity through it—different from any ordinary tank?

Mr. H. S. Chambers (Hampton) considered that they were indebted to Mr. Norrington for bringing before them an arrangement which had for its laudable object efficiency and economy. The most striking feature of the paper to his mind was the prominence given to the immediate removal of the suspended matter in sewage. This was indicative of the present trend of scientific thought, and probably of future practice.

Mr. P. J. Harrison (Dorchester) said as regarded the separator he was in a position to make a statement, because he happened to be at Dorchester for the last eighteen months, and the working of this particular installation had been in his particular department for that time. The separator at Dorchester was divided into four compartments, one being emptied daily, which meant that each compartment was emptied in four days. To empty that it was necessary to remove the whole of the supernascent water. To his mind that was a disadvantage. In the hydrolytic tank the sludge could be removed without disturbing the top water. He did not wish to appear too critical of this apparatus, because he recognised the good work it was doing, but he was inclined to think that the statements here made of the work it had done were rather exaggerated. The suggestion was made that after going through the separator the effluent was practically fit to go on to the filters. They found at Dorchester it was not so. The grit chambers in connexion with the separators removed 4 or 5 tons of stiff sludge a day, the separator removed a further three-quarters of a ton. He might say the population was 10,000, and the dry weather flow was 45 gallons per head, as the sewage was very diluted owing to leakages into the sewers. After it went through the separator it was heated in the old septic tank, which was used as a sedimentation tank, and a further two or three tons of sludge a day was removed in that sedimentation tank. The problem before his Council at the present time was the economical and convenient method of removing this extra amount of sludge, which was not retained by the separator, but was retained by the septic tank.

Maintenance of Rural Roads.

Mr. G. E. Carter (Engineer to the Winchester Rural District Council) presented a paper on the "Maintenance of Rural Roads in Hampshire." He said that the work of maintaining the highways of Hampshire differed considerably from other counties. The chief reasons and the difference were the nature of the subsoil and the material available from local sources for repairs. The subsoil in that district was largely of chalk, the only local material available for repairs being hand-picked flints, and in the southern portion of the district a small quantity of dug gravel. The best flints were obtained from heavy land, and if these were stacked in heaps and allowed to weather for some months their quality as a road metal was greatly improved. Among the advantages of this material was its comparative silence under traffic, and its gritty composition, which rendered it absolutely non-slipping. On the other hand, the disadvantages were many. In the winter months the surface of roads repaired with this material gave way considerably after frost, and in the summer a very short period of dry weather caused the stones to become loose, and these were quickly powdered up by the traffic. The same effect was caused by the passing of light motor-cars, the binding being extracted from between the flints by the suction of the tyres, thus causing a large addition to the dust nuisance.

Another disadvantage was the effect it had on iron. The average life of the driving wheels of a steam roller working on this material was three seasons. This compared very unfavourably with the length of service of the same wheels when working on granite, a set to his knowledge having lasted ten years.

In 1899 only 4·6 per cent. of the material used on the Hampshire roads was granite, and the district roads were repaired solely with local material. At the present time 40 per cent. of the whole material used on the main roads was made up of Rhenish basalt, English and Welsh granite, while 20 per cent. of the same materials was used on the district roads in the Winchester district alone. The change from flint to granite was rendered necessary by the great increase in the number of heavy locomotives and motor-cars using the roads. Some portions of the principal roads which were repaired with flints required coating every season. The same lengths of roads, after being coated with granite, had stood five years. The price paid for hand-picked flints delivered to the roadside depôts varied from 4s. to 6s. per cubic yard. The average price paid for breaking was 9d. per cubic yard. The cost of granite varied from 11s. to 14s. per ton, according to station, and the haulage on to the road from 6d. to 3s. per ton. Owing to the steady increase in the quantity of granite used it was becoming more and more difficult to obtain suitable binding materials, fine gravel for this purpose having in some cases to be hauled ten miles. On many of the more important roads, where the supply of hard metal available was insufficient to make good the year's wear, they had adopted the system of coating the centre of the road with granite and the sides with flints.

In the preceding year the cross-sections of any of these lengths which were considered to have too much fall and present-day traffic were brought up to the proper contour by raising the margins and filling up the low sides with gravel or flints. On those roads which carried the heavy traffic of the district it was found most economical to use Rhenish basalt or Welsh granite, broken quite cubical, and to hold well up to 2½-in. gauge, as large cubical stone certainly made less dust than flaky material, although the surface might not at first be so even as with stone broken to a smaller gauge. On the steeper gradients in the Winchester district, some of which were equal to 1 in 9, he found that Mountsorrel granite gave a good grip and presented a very even surface.

Steam rolling was usually commenced about the beginning of October, and every effort was made to complete the principal roads by the end of December, to escape the delay by frost, which was of frequent occurrence in the early months of the year, and to be ready to cope with the lengths of road which were broken up annually by the heavy traffic passing over the roads during a thaw. In the early spring of 1908 1,000 yds. of material were consumed in the Winchester district in making good the damage caused by frost.

All manual labour in the district was carried out by day workmen, and on the most important main roads each man was responsible for about four miles, which received his constant attention.

Four horse-sweeping machines were employed in the winter months; this reduced the manual labour for scraping, which was a considerable item on some of the low-lying roads.

In the summer of 1907 efforts were made to decrease the dust nuisance in the villages of King's Worthy and Twyford. Three lengths of road were coated with tarvia binder, used in conjunction with Clee Hill stone, Mountsorrel granite, and Rhenish basalt. The binder for this work was mixed at Winchester, a hot plate and tank being erected for the purpose of drying the granite chippings and heating the tarvia liquid at the old works of the Winchester Water and Gas Company. The binder was taken direct from the mixing shed and spread on the road ¾-in. thick, the granite was then spread over, and the work completed with a light roller.

The first length done had worn into holes, and would soon require attention. The other two lengths appeared to be in as good condition as when first completed. He attributed the non-success of the first portion to insufficient sweeping of the old surface, which allowed the material to creep, and to the passing of heavy military engines over the work before it was completed. In laying the second and third lengths the old road was thoroughly swept, and several small stones picked out of every square foot of road surface, this provided an excellent key for material, and although portions of it were laid on a quick slope there had been no sign whatever of creeping. These lengths of roads had been carefully watched during periods of thaw after frost, and had been found to be unaffected by the weather changes, there being no licking up of the surface at any time, and the surface was not so slippery as that of the roads painted with tar. Several lengths of road had been from time to time sprayed with various tar compounds, and he was of opinion that the life of a road constructed of good granite, broken quite cubical, could be preserved in perfect condition for some years by spraying it each summer, when the surface was bone dry, with tarvia liquid or tarvia compo. The success or otherwise of this treatment would depend largely on the manner in which the sweeping of the surface was carried out previous to the spraying. The sides of the road, where the largest deposits collected and

which retained most misture, should be thoroughly scraped and cleaned some days before the spraying was contemplated.

Mr. W. V. Anderson (Winchester) proposed a vote of thanks to the author of the paper, which was seconded by Mr. T. W. A. Hayward (Battersea), and carried.

In the afternoon visits were made to the destructor, the sewage pumping station, the cathedral, and the gasworks.

APPLICATIONS UNDER THE LONDON BUILDING ACTS, 1894 to 1908.

THE London County Council at their meeting on Tuesday dealt with the following applications under the London Building Acts, 1894 to 1908. The names of applicants are given between parentheses:—

Lines of Frontage and Projections.

Brixton.—A building on the site of Nos. 6 and 8, Brighton-terrace, Brixton (Mr. H. P. Wyatt for Messrs. Baker & Sons).—Refused.

Finsbury, Central.—Buildings on the site of Nos. 184 to 204, even numbers (inclusive), Pentonville-road, Finsbury (Mr. C. E. Pettit for Messrs. Lilley & Skinner, Ltd.).—Consent.

Greenwich.—An addition in front of No. 72, Foyle-road, Greenwich (Mr. A. Roberts for Mr. G. W. Gordon).—Refused.

Hackney, North.—Houses on the eastern and western sides of Moundfield-road and the western side of Castlewood-road, Hackney, with the flanks of two of the houses to abut upon Ravensdale-road (Mr. P. Roche).—Consent.

Holborn.—A sign at No. 232, Tottenham Court-road, Holborn (Mr. F. R. Betenson for Messrs. J. Tylor & Sons).—Consent.

Holborn.—A projecting sign in front of No. 285, High Holborn (Mr. A. Whitelaw for the London and North-Western Railway Company).—Consent.

Holborn.—Balconies and cornices in front of a building to be erected upon a site abutting upon the western side of Kingsway and the southern side of Kemble-street (Messrs. J. S. Gibson, Skipworth, & Gordon for Messrs. L. & C. Hardtmuth, Ltd.).—Consent.

Islington, North.—A one-story building at the western end of Ingleby-road, Islington (Mr. W. F. Croot for Miss Jenkins).—Consent.

Kensington, South.—A porch and balcony in front of No. 22, Holland-park, Kensington (Messrs. Kemp & How for the Trustees of the late William Radford).—Consent.

Lewisham.—A building on the south-eastern side of Lewisham High-street, to abut upon the north-eastern side of Court Hill-road, so far as relates to the construction of a covered area in a portion of the land to be dedicated to and left open for the use of the public (Temperance Billiard Halls, Ltd.).—Consent

Marylebone, East.—A porch in front of No. 19, Avenue-road, St. Marylebone (Mr. A. F. Faulkner for Mr. W. Willett).—Consent.

Marylebone, East.—A porch in front of No. 23, Avenue-road, St. Marylebone (Mr. A. F. Faulkner for Mr. W. Willett).—Consent.

Norwood.—That the Council, on the application of Messrs. Carl Hentschel, Ltd., do extend the licence in respect of the temporary iron and glass shelter in front of No. 160, Knight's Hill-road, Norwood, for a period of three years from July 17, 1909.—Agreed.

Norwood.—A deviation from the plan approved for the erection of eight houses on the south-western side of Poplar-walk, Herne Hill, so far as relates to the erection of two chimney breasts at the flank of the north-westernmost house (Messrs. R. Ellis & Son).—Consent.

Paddington, South.—Scullery addition under the porch in front of No. 20, Lancaster Gate-terrace, Paddington (Messrs. E. Wimperis & Best).—Consent.

Paddington, South.—A wood, iron, and glass porch in front of Nos. 41 and 43, Woodfield-road, Paddington (Mr. T. J. Fox for Mr. W. Montgomery-Wilson).—Consent.

St. George, Hanover-square.—A lodge building at the entrance to "Mortimer House," Halkin-street, St. George, Hanover-square (Waring & White (1906), Ltd.).—Consent.

Wandsworth.—Houses, with projecting halls and windows, on the eastern side of Strathbrook-road, Streatham (Messrs. Hill & Tyler).—Consent.

Wandsworth.—One-story shop at No. 97, Clapham Park-road, Clapham (Mr. J. W. G. Whyte for Mr. P. Meredith).—Consent.

Wandsworth.—Bay windows and porches to six houses on the north-western side and six houses on the south-western side of Hilldown-road, Wandsworth (Mr. H. E. Davey for Mr. G. J. Philpot).—Consent.

Wandsworth.—Buildings on the eastern side of Ramsden-road, Wandsworth (Mr. J. H. Tupper).—Refused.

Wandsworth.—A building on the western side of High-road, Streatham (the Temperance Billiard Halls, Ltd.).—Refused.

Wandsworth.—A building on the north-western side of Vant-road, Tooting, to abut upon the south-western side of Totterdown-street (Mr. W. Bartholomew).—Refused.

Westminster.—Retention of an illuminated sign in front of the Albert public-house, No. 52, Victoria-street, Westminster (Mr. H. W. Ford for the Metropolitan District Railway Company).—Consent.

Woolwich.—Porches at Nos. 82, 84, 86, 88, 90 and 92, Dumbreck-road, Eltham-park (Mr. J. J. Bassett).—Consent.

Woolwich.—Bay windows to four houses on the southern side of Glenlyon-road, Woolwich (Mr. J. J. Bassett for Mr. A. Cameron Corbett).—Consent.

Width of Way.

Chelsea.—That the application of Mr. J. Kirklank, for an extension of the periods within which the erection of a projecting bathroom at the rear of No. 33, Lowndes-street, Chelsea, was required to be commenced and completed, be granted.—Consent.

Islington, North.—A one-story building at the rear of No. 100, Palmerston-road, Holloway, with a boundary fence at less than the prescribed distance from the centre of the roadway of Fonthill-mews (Mr. H. Brown for Mr. W. S. Hoare).—Consent.

Lambeth, North.—A building abutting upon the south-eastern side of Oakley-street, Lambeth, and the north-eastern side of Tanswell-street, such building to be inhabited in part by persons of the working class, to be erected at less than the prescribed distance from the centre of the roadway of Tanswell-street, and to exceed in height the width of such street (Messrs. Cayley & Rochester for Mrs. A. L. Charre).—Consent.

Limehouse.—A building on the western side of Glasshouse Fields, Limehouse (Messrs. Pearson & Milburn).—Refused.

Strand.—Buildings on the western side of Charing Cross, Strand, southward of No. 49, Charing Cross, at less than the prescribed distance from the centre of the roadway of Spring-gardens (Messrs. Hayward & Maynard for Mr. G. J. Drummond).—Refused.

Width of Way and Lines of Frontage.

Chelsea.—A building at the rear of No. 64, Sydney-street, Chelsea, to abut upon the western side of Bury-street (Mr. J. Codrington for Mr. Spears).—Refused.

Hackney, South.—A one-story shop in front of No. 24, Mare-street, Hackney (Mr. A. B. Coulsell).—Consent.

Width of Way, Line of Frontage, and Building for the Supply of Electricity.

Southwark, West.—A gangway over the public way of Pike-gardens, at the premises of the City of London Electric Lighting Company, Ltd., Bankside and Pike-gardens, Southwark (City of London Electric Lighting Company, Ltd.).—Consent.

Building for the Supply of Electricity.

Southwark, West.—An addition at the premises of the City of London Electric Lighting Company, Ltd., Bankside and Pike-gardens, Southwark (City of London Electric Lighting Company, Ltd.).—Consent.

Line of Frontage and Space at Rear.

Kensington, South.—Two houses abutting on a footway leading from Lexham-gardens to Cornwall-gardens, Kensington, with an irregular open space at the rear (Messrs. S. Barrett & Driver for the Misses Leith and Mr. J. B. Barrett).—Consent.

Line of Frontage and Construction.

Islington, South.—The retention of a wooden bookstall in front of the Angel Tube Railway Station, City-road, Islington (Messrs. Hedderwick & Denton).—Consent.

Width of Way and Construction.

Whitechapel.—A temporary wood and iron building upon a site on the southern side of Great Prescot-street, Whitechapel, to abut also upon the western side of Leman-street (Messrs. W. Whitford & Co. for the Co-operative Wholesale Society, Ltd.).—Consent.

Space at Rear.

Kensington.—A modification of the provisions of sect. 41, with regard to open spaces about buildings, so far as relates to the proposed erection of an addition at the rear of No. 47, Beaufort-gardens, Kensington (Mr. F. Stovold for Mrs. Hope-Edwards).—Consent.

Lewisham.—A modification of the provisions of sect. 41, with regard to open spaces about buildings, so far as relates to the proposed erection of a building at the corner of Ewhurst-road and Manwood-road, Lewisham, with an irregular open space at the rear (Mr. J. Nicholls).—Consent.

Lewisham.—A modification of the provisions of sect. 41, with regard to open spaces about buildings, so far as relates to the proposed erection of five houses, with a workshop at the rear, on the eastern side of Phoebeth-street, Ladywell, with an irregular open space at the rear of the northernmost house (Messrs. J. W. Heath & Sons).—Consent.

Formation of Streets.

Kensington, North.—That an order be issued to Messrs. P. & H. W. Currey, sanctioning the formation or laying out of a new street for carriage traffic in continuation north-westward of St. Mark's-road, Kensington.—Consent.

Norwood.—A deviation from the plans and sections sanctioned for the formation or laying out of new streets for carriage traffic out of the northern side of Upper Tulse-hill, Norwood, so far as relates to (i.) an alteration in the gradients of such streets, and (ii.) the rounding of the angle at the junction of streets Nos. 1 and 2 (Messrs. Douglas Young & Co.).—Consent.

Cubical Extent.

Paddington, North.—The retention of a building known as Nos. 6, 8, 10, and 12, Irongate Wharf-road, and No. 9, Harrow-road, Paddington, exceeding in extent 250,000 cubic ft., to be used only for the purposes of a wholesale milk depôt (Messrs. Forsyth & Maule for the Great Western and Metropolitan Dairies, Ltd.).—Consent.

Uniting of Buildings.

Finsbury, East.—Formation of two openings, with rolling steel shutters, at the second floor level of the premises of the Royal London Mutual Insurance Society, Ltd., at the corner of City-road and Finsbury-square, Finsbury (Mr. J. Belcher, R.A.).—Consent.

Holborn.—The uniting of No. 11A, Featherstone-buildings and No. 3, Sandland-street, Holborn (Messrs. Whitby Brothers).—Refused.

Hoxton.—The retention of openings between Nos. 211, Shoreditch High-street and Nos. 2 and 4, Great Eastern-street, Hoxton (Mr. E. Stones for the Duke of Marlborough).—Consent.

Islington, South.—The use of armoured doors in lieu of iron doors to certain openings in the division walls at Nos. 24, 26, 28, and 30, Graham-street, Islington (Messrs. Mather & Platt, Ltd., for Mr. A. F. Vigers).—Consent.

Kensington, South.—The uniting of Nos. 27 and 28, Campden House-court, Kensington (Mr. J. D. Kendall for the Right. Hon. C. Booth and the Hon. Malcombe McNaughten).—Consent.

Marylebone, East.—The uniting of Nos. 44 and 46, Marylebone-lane, the chapel building at the rear of No. 46, Marylebone-lane, and Nos. 70, 71, and 72, Welbeck-street, St. Marylebone (Messrs. A. E. Hughes & Son for Messrs. J. R. Collett & Co.).—Consent.

Marylebone, East.—The uniting of Nos. 158-162, Oxford-street and No. 2, Winslev-street, St. Marylebone (Mr. J. Belcher, R.A.).—Refused.

Competition News.

GRIMSBY TOWN HALL COMPETITION.

It will be remembered that the assessor's award of the third premium in this competition was not accepted by the Finance Committee on the ground that the architects' estimate was considerably above the limit stipulated, and the assessor, Sir W. Alfred Gelder, F.R.I.B.A., was asked for an explanation; this came before the Finance Committee recently, and, being considered satisfactory, the third premium goes to Messrs. Rigby, Oliver, & Phipps, of 92, Market-street, Manchester, for design No. 47.

HUTCHESON'S HOSPITAL FEUING DESIGN COMPETITION.

At a general meeting held on October 6, the Patrons of Hutcheson's Hospital, Glasgow, made their award in the competition for laying out for feuing and building their lands of Thornliebank, near Glasgow. The first premium of 100*l.* was awarded to Messrs. Joshua Boyd & Co., 49, Bath-street, Glasgow; the second of 75*l.* to Mr. Daniel McInnes, C.E., 3, Kennyhill-square, Dennistoun, Glasgow; the third of 50*l.* to Mr. J. Gilchrist Bennett, C.E., 12, High-street, Paisley; and the fourth of 25*l.* to Messrs. W. R. Copland & Sons, C.E., 146, West Regent-street, Glasgow. The whole of the plans sent in were on view in Hutcheson's Hospital Hall, 2, John-street, Glasgow, during the course of this week.

LIBRARY, ST. ALBANS.

The offer of Mr. A. Carnegie to provide 3,000*l.* towards the cost of the erection of a new public library at St. Albans has been accepted, and architects practising in St. Albans are

being invited to submit plans. The President of the Royal Institute of British Architects is to be requested to act as assessor, and make a selection of the best designs for submission to the City Council.

SCHEME FOR LAY-OUT OF GARDENS, BATH.

The Bath City Council have resolved to offer a premium of 50*l.* for the best design to lay out the Institution gardens, providing the necessary shelters, lavatory accommodation, and utilising the hot mineral water. The conditions of the competition are at present in course of preparation.

GIRLS' SCHOOL, HARROGATE.

In a limited competition for a high-class school for girls, including provision of boarding-houses, head mistress's house, lodge, etc., proposed to be erected by the Woodard Society (northern division), the designs submitted by Mr. W. Gillbee Scott, of 25, Bedford-row, London, have been adopted for execution. The total estimated cost is about 46,000*l.* In the selection of the successful design the Chapter were advised by Mr. H. W. Chatters, F.R.I.B.A., of Cheltenham.

BOOK RECEIVED.

DOMESTIC SANITATION AND PLUMBING. By A. Herring-Shaw, R.P.C. Pp. 307. (Gurney & Jackson. 6s. 6d.)

Correspondence.

ADVERTISING BOARDS.

SIR,—*Re* your notes in the last issue of the *Builder* on those advertising eyesores, patent medicines, with a curious irony there are three of them planted within 20 ft. of an ancient chapel burying-ground, Westoning, Beds, and one's eyes fall direct upon the old grave memorials literally under the advertisement boards, suggestive of an eventual and speedy grave if one is simple enough to be deluded into using such so-called cures for every evil under the sun.

JOHN STETCHER.
Clerk of Works.

LONDON AND PROVINCIAL BUILDERS' INFORMATION CENTRE.

[COMMUNICATED.]

REFERENCE was made in these columns last week to the establishment of a Builders' Information Bureau. The word "Centre" will in future be substituted for "Bureau," as it conveys more clearly the general idea of the organisation.

A builder constantly requires some special information in connexion with his business which involves much searching for and correspondence, or a number of quotations from manufacturers or merchants are wanted, and as conditions in the building trade vary every day it is no easy task to keep up-to-date with the best markets. A recognised Centre fed from all quarters must undoubtedly be *au courant* with these conditions, and an experienced staff is maintained for this purpose.

A feature of the work is the department set aside to deal exclusively with the registering of particulars dealing with building trade productions and other information in the local districts throughout the country. Frequently a builder is tendering for work in a locality quite unknown to him, and it is necessary to at once get in touch with the local conditions most likely to meet his requirements, and this information is provided by the Centre.

A further advantage is that afforded to a builder for registering his name, etc., and setting forth the class of contract he is able to undertake, and giving a list of executed works. This Register will be available for architects throughout the country, and will be classified into districts, extracts being forwarded to architects about to invite tenders. Special mention will be made in cases where a builder is able to undertake sub-contracting work, as often he is passed over for want of this knowledge on the part of the architect.

Full particulars may be obtained on application to the Secretary, 24, Hart-street, Holborn, W.C.

LONDON COUNTY COUNCIL EDUCATIONAL COMMITTEE.

THE Educational Committee of the London County Council met on Wednesday.

Dingle-lane, Poplar.—An estimate of 430*l.* was voted for inclosing land and erecting a playshed, the work to be carried out by Messrs. J. & C. Bowyer, the contractors for the school now being erected.

"The Riversdale," Wandsworth.—340*l.* was voted for tar-paving playgrounds.

Basnett-road, Battersea.—It was decided to adapt the iron building as a school for physically defective children, at a cost of 215*l.*

The "Frogmore," Wandsworth.—Plans were passed for adapting rooms to accommodate sixty mentally defective children, at a cost of 460*l.*

Contractors and London Joinery Work.—Some time ago the question of erecting a new school and a new centre at Lewisham and Poplar was referred back. The Committee now reported:—"We have considered further the question of entrusting the work to Messrs. F. & E. Davey. In reply to our inquiry the contractors have undertaken, in the event of their tenders being accepted, to do the joinery work in London, at the London rate of wages. The contractors have also informed us that they have decided to pay 9d. an hour to joiners at Southend, irrespective of the Council's work, although they understand that the society have agreed to the payment of 8½d. an hour for six months. In view of all the circumstances, we are of opinion that the recommendations should be resubmitted to the Council on the understanding that the joiners' work is done in London at London rates." The Committee therefore now decided to recommend the Council to accept Messrs. Davey's tenders as follows:—School for 817 at Manor-lane, Lewisham, 16,235*l.*, and two centres and science-room on the Millwall site, Poplar, 4,953*l.*

Electric Lighting.—Tender of 259*l.* from British Westinghouse Company was recommended for electric lighting at Paddington Technical Institute.

Remuneration of Quantity Surveyors.—The following recommendations were made:—That Mr. H. H. Robinson, quantity surveyor, be allowed 2 per cent. in respect of the "works to existing buildings" bill (1,320*l.* 2s.) in the quantities for the enlargement of the Essendine-road school (Paddington, N.); Mr. C. W. Brooks be allowed 2 per cent. on 2,000*l.* of the amount of the "works to existing buildings" bill (2,049*l.* 10s. 3d.) in the quantities for the enlargement of Queen's Head-street school (Islington, S.), and 2½ per cent. in respect of the "works to existing buildings" bill (493*l.* 11s. 8d.) and the exterior painting bill (71*l.*) in the quantities for the enlargement of the "Maryon-park" school (Woolwich).

School of Engineering.—Mr. B. Cunningham, of the Engineer's department of the Port of London Authority, was appointed a member of the Advisory Sub-Committee of the School of Engineering, Poplar.

LONDON AND DISTRICT BOROUGH COUNCILS.

Battersea.—Three streets are to be repaved with granite macadam, at an estimated cost of 632*l.* Plans have been passed for the Empire Stone Company, Ltd., for a reinforced concrete structure, to be used as a crucible mill, at the premises of the Morgan Crucible Company, Ltd.

Camberwell.—It is proposed to erect, at the joint expense of the Councils of Croydon, Lambeth, Penge, and Camberwell, an underground convenience at Crystal Palace-parade. The cost is put down at about 500*l.* The Rev. Canon Murnane has approached the Borough Council to ask if they would assist him in obtaining outstanding interests in Toulon-street for the purpose of his proposed new R.C. school (St. Joseph's).

East Ham.—Plans and estimates by the Surveyor have been passed for making-up Albert-road, North Woolwich (797*l.*), and for making-up Aldersbrook-lane (150*l.*). Building plans have been passed as follows:—Mr. A. H. Leadbetter, thirty-five houses, Welbeck-road; Messrs. Beadle, Wood, & Co., new road, being a continuation of Caledon-road; Mr. W. Lowe, eight houses, Loxford-avenue; Messrs. Stoneley & Carr, twenty-six houses, Holland-road.

Finchley.—Plans have been passed by the District Council for eighteen houses in Park-avenue, for Mr. P. D. Walker.

Hammersmith.—Messrs. Vigers & Co. have lodged plans for a building over the Central London Railway Station at Shepherd's Bush.

Hendon.—The Engineer is to visit some districts where dust destructors are in operation to obtain information in regard to a proposal to erect a destructor in Hendon. The following plans have been passed:—Mr. Colwill, six terrace houses, Dallas-road; Mr. A. H. Tiltman, house and motor garage, West Heath-drive; Mr. F. Bastable, fourty-four semi-detached houses, The Grove, Golder's Green; Mr. R. Angell, optical works, Bittacy-hill, Mill Hill; Messrs. W. Moss & Son, two houses, Bigwood-road, and three cottages, Erskine-hill; Messrs. P. Bedon, Ltd., presbytery, Finchley-road; Mr. H. Dawson, eight double tenement houses, Crewys-road, Child's Hill; Hampstead Tenants, Ltd., club and three cottages, Willifield Way; Mr. R. Vernon Hart, four semi-detached houses, Wentworth-road; Messrs. Benskin, Ltd., alterations to Royal Oak public-house, Temple Fortune. The following plans have been lodged:—Mr. J. W. Reeves, six houses and one shop, Collindale-avenue; Mr. E. H. Appleton, nine houses, Russell-road.

Kensington.—Messrs. Joseph West & Son are to carry out repairs to the timber jetty at Lots-road Wharf, at an estimated cost of 300*l.*

Lambeth.—Messrs. Joseph & Smithem, on behalf of Messrs. Lyons & Co., have lodged plans for the construction of vaults and pavement lights in connexion with a new building to be erected on the site of Nos. 258, 260, and 262, Westminster Bridge-road.

West Ham.—The Council have passed the following plans:—Messrs. J. Howlett & Son, additions and alterations to 58, Victoria Dock-road, Canning Town; Mr. W. Stewart, new toilet department at Messrs. J. Knight's premises, Silvertown; Mr. M. Zimmerman, rebuilding warehouse for the British Alcohol Company, Worland's Wharf, Canning Town; Mr. J. R. Moore-Smith, additions to blouse factory, 105, The Grove, Stratford.

Westminster.—The Improvements Committee report having received a letter from H.M. Office of Works calling attention to a report in the *Builder* of the Council having had under consideration in July the question of the widening of Beak-street, Regent-street, and asking if it was a fact whether, as far as the Council was concerned, the proposal to widen Beak-street had now been given up. The Committee have decided to inform the Office of Works that the City Council had no intention at present of proceeding with the widening of either Beak-street, Foubert's-place, Chapel-court, Regent's-place, or Heddon-street. H.M. Office of Works transmitted for approval a drawing of a subway which they propose to construct in Orange-street in connexion with the National Gallery and extension and the National Portrait Gallery. The Works Committee has passed the plans subject to protective conditions. Messrs. D. R. Paterson, Ltd., are to construct a sewer in the new street near the Guildhall, Westminster, the contract price being 326*l.*

Master Builders' Associations, etc.

LIVERPOOL MASTER BUILDERS' ASSOCIATION.

The forty-third annual meeting of this Association was held in the Board-room, 24, Sir Thomas-street, Mr. Frank Griffiths, the retiring President, occupying the chair at the commencement of the proceedings. After the adoption of the report and Treasurer's statement, Mr. R. Arthur Costain was elected President for the ensuing year, and in returning thanks he urged all the members to loyally carry out the recommendations of the Council. The retiring President having been thanked for his valuable services, the following officers were elected:—Mr. Charles Tomkinson, senior Vice-President; Mr. R. Stevenson Jones, junior Vice-President; Mr. J. T. Duthie, Treasurer; and Messrs. H. E. Dallow and J. Sirett Brown, Hon. Auditors. Thirty-six members were elected to form the Council for the ensuing year. The Council is divided up into six trade committees, representing the bricklayers, masons, plasterers and slaters, carpenters and joiners, painters, plumbers, and gasfitters and electricians.—Mr. J. B. Johnson brought forward the question of forming a Building Trades' Exchange, and after considerable discussion the matter was referred to the Council for consideration.

PROJECTED NEW BUILDINGS IN THE PROVINCES.

ABERCROVE.—Twenty houses; Mr. C. S. Thomas, architect, 14, Wind-street, Swansea.

Aspull.—School (3,300*l.*); Messrs. J. Johnson & Son, builders, Wigan.

Bardsea.—Police-station; Lancashire County Council.

Barnsley.—Boys' school (4,000*l.*); Council of St. Mary's Church, Barnsley.

Beckenham. — Proposed new elementary school for about 500 children on a site in Witham-road, Beckenham.

Berwick. — Church; Trustees, Primitive Methodist Church.

Blackpool.—Fourteen houses, Conder-grove; Mr. J. G. Pye, architect, Conder-grove, Blackpool. Sunday-school and chapel; Baptist Church Trustees, Hornley-road, Blackpool.

Braintree.—Cookery centre; Mr. H. Potter, builder, Chelmsford.

Bristol.—Proposed erection of ten single cottages (2,130*l.*); Mr. T. H. Yabbicom, Surveyor, Bristol City Council.

Burton.—Skating-rink; Secretary, Burton Skating Rink Company.

Cadle.—Additions to school (2,000*l.*); Mr. D. P. Jones, architect, Charles-street, Cardiff.

Carshalton.—The District Council has passed the following plans:—Addition to the rectory for the Rev. G. B. Vaux; two pairs villas, Fairview-road, Messrs. Windebank & Co.

Chigwell.—Alterations to County school; Mr. F. Whitmore, architect, Duke-street, Chelmsford.

Cold Norton.—School; Mr. F. Whitmore, architect, Duke-street, Chelmsford.

Croydon.—Forty-five houses, Addison-avenue; Mr. G. Millar, architect, Croydon.

Dalmeny. — School-house (1,500*l.*); Mr. Campbell, architect, Dalmeny Park.

East Dereham.—Secondary school; Norfolk Education Committee, County Hall, Norwich.

Ebchester.—Wesleyan church; the Trustees.

Exeter.—Block of shops and dwelling-houses; Mr. E. Ellis, architect, Polsloe-road, Exeter.

Folkestone.—Extensions to public library (5,000*l.*). Proposed new buildings (10,000*l.*), for Harvey Grammar School; Mr. A. E. Nichols, Surveyor, Folkestone Town Council. The Town Council has passed the following plans:—Three houses, Dover-road, Mr. W. H. Agar, architect and builder; four houses, Stuart-road, Mr. F. E. Maycock, architect and builder.

Gloucester. — Skating-rink; Secretary, Gloucester Rink Company, St. Michael's-square, Gloucester.

Heinsworth. — Additions to Church of England school (1,200*l.*); the Managers, Heinsworth.

Hove.—The Town Council has passed plans for five houses, Fonthill-road, and alterations to 59, Coleridge-street, for Messrs. J. Parsons & Sons.

Norton.—School (10,000*l.*); Mr. T. Rushworth, architect, Shire Hall, Durham.

Plymouth.—The Town Council has passed a plan lodged by Mr. T. J. Stevens for a shop and dwelling-house at the corner of Winston-avenue and Glenparke-avenue.

Richmond-on-Thames.—Receiving home at rear of Guardians' offices; architect, care of Mr. P. Umney, clerk, Board of Guardians. Proposed parish-room (2,500*l.*) at St. John's; Rev. R. B. Harrison, vicar.

Rotherham.—The Town Council has passed the following plans:—Three houses, Ferham-road, Messrs. Geo. Saul & Sons; eight houses, Deepdale-road, Mr. William Charles; three houses, Regent-street, Mr. J. Oxley; sixteen houses, Selbourne-street and Lindley-street, Messrs. Charles Green's Sons; three houses, Deepdale-road and South-street, Mr. H. Squires. The following plans have been lodged:—Three houses, Kimberworth-road and Bradgate-lane, Mr. J. H. James; twenty-four houses, Lindley-street, Mr. Herbert James.

Salisbury.—Chapel; Messrs. Morley & Son, architects, Craven House, Kingsway, W.C.

Sheffield.—The Town Council has passed the following plans:—Eight houses, Middlewood-road and Langsett-avenue, Mr. S. Woolhouse; four houses, Firvale-road, Messrs. W. & A. Forsdike, Ltd.; twelve houses, Dykes-lane, Mr. John Heap; six houses, Overton and Darwin roads, Mr. W. J. Patchett; four houses, Woodbourn-hill, Mr. A. Swift; twelve houses, Frickley-road, Mr. A. E. Gosling; twelve houses, Chesterfield-road, Mr. A. J. Forsdike; thirty-two houses, Romsdal-road, Mr. F. Ridal; fifteen houses, Chesterfield-road, Mr. F. S. Tinker; five sale shops, Glassop-road and Victoria-street, Mr. T. Walter Hall; additions to premises, Upperthorpe, Rev. J. W. Merryweather; alterations to premises, Memsworth-road, for the Lees Hall Golf Club; alterations to Umpire Hotel, Boston-street, Messrs. T. Rawson & Co., Ltd.; motor-house, Psalter-lane and Kingfield-road, Mr. Slack; hotel and stabling, Duke of York public-house, Main and Catley-roads, for the Trustees of the late Mr. R. J. Bentley; addition to Fox House Hotel, Shirland-lane and Ardmore-street, Messrs. T. Berry & Co., Ltd.; additions foundry and pattern shop, Savile-street East, Messrs. Thomas Firth & Sons, Ltd.; additions to premises, Lumley-street, for the Health Committee of Sheffield Corporation; motor-house, Cross-lane, Mr. G. Batty.

Sleepburn.—Vicarage; Mr. A. Plummer, architect, 13, Grey-street, Newcastle-on-Tyne.

Smethwick.—Additions to power-station; Mr. H. Dorce, builder, Cradley, Worcester.

Solihull.—Block of villas; Messrs. Bridges & Son, builders, Ococks Green. Wesleyan church; Rev. R. W. Hopewell, 5, Tennyson-road, Small Heath, Birmingham.

Southgate (Middlesex).—Working-class dwellings, Tottenhall-road; Mr. C. G. Lawson, Surveyor, Southgate Urban District Council.

Stockport.—Isolation block (1,800*l.*); Mr. W. Beattie, builder, Stockport.

Stretford.—The Town Council has passed the following plans:—Private assembly-room, Upper Chorlton-road, Mr. Alf. Haines; conversion into shops of Nos. 1077-79, Chester-road, Mr. H. S. Batey; corn mill, etc., Trafford Wharf-road, Messrs. J. Greenwood & Sons, Ltd.; rubber works, Westinghouse-road, for the Rubber Generating Company, Ltd.

Sutton Coldfield.—Post-office; Mr. Henry Williams, architect, Queen-street, Sutton Coldfield.

Torquay.—The Town Council has passed the following plans:—Three houses, Empire-road, Upton, Mr. J. Blatchford; seven houses, Warberry-road, St. Mary Church, Mr. J. Cruse.

Walsall.—The Town Council has passed the following plans:—Three houses, Birmingham-road, Mr. Geo. Curnock; extensions to factory, New-street, Messrs. Stammers, Ltd.; five houses, Broad-lane, Bloxwich, Mr. H. Wootton.

Wigan.—The following plans have been passed by the Town Council:—Four houses, Chadwick-street, Mr. R. G. Dawson; alterations to New Central Hall, King-road, Pemberton, Messrs. Weisker Brothers; five houses, Seed-street, Mr. Wm. Wood; five houses, Brindley-street, Messrs. Meadow & Son; four houses and stable, Sandon-street, Mr. W. Talbot; People's Palace, Station-road, Mr. Wm. Benson.

Wylde Green.—Row of houses; Mr. Blackman, builder, Frederick-street, Wylde Green.

METROPOLITAN ASYLUMS BOARD.

AT the fortnightly sitting of this Board on Saturday, the following matters were dealt with:—

Authority for Works.—It was reported that a letter had been received from the Local Government Board authorising the provision at Caterham Asylum of additional infirmary accommodation, at a cost not exceeding 845*l.* The Board also wrote asking the managers to reconsider their proposal for the adaptation of the Eastern and South-Eastern Ambulance Stations for the accommodation of motor vehicles, with a view to the adoption of a less costly scheme.

Central Stores.—The accountant reported on the accounts submitted by the contractors, Messrs. Charles Wall, Ltd., in connexion with the erection of the Central Stores. The total amount payable was 16,032*l.* 17s. 6d., which was less than the contract sum by 348*l.* 2s. 6d.

Painting and Cleaning Works.—The Works Committee reported that as the guarantor proposed by the firm whose tender was the lowest for the cleaning and painting works at Gore Farm Hospital had intimated his inability to become surety for seeing that the contract works were carried out to the satisfaction of the Engineer, they had entered into a contract with Mr. Kazak for the execution of the works. ——It was decided to carry out cleaning and painting works at the South-Western Hospital by direct labour, at an estimated cost of 450*l.*

Children's Infirmary.—A plan prepared by the Engineer to provide waiting-room accommodation at the above infirmary was ordered to be submitted to the Local Government Board for approval.

South Wharf.—A further plan prepared by the Engineer was submitted for the rearrangement and increase of the accommodation for bathing for the female staff at South Wharf, the estimated cost being 350*l.* It was decided to carry out the work subject to the consent of the Local Government Board.

METROPOLITAN WATER BOARD.

THE first sitting of this Board after the summer recess was held on Friday last week, when the following, amongst other business, was transacted:—

Loans.—It was reported that the Local Government Board had consented to the Board borrowing the following, amongst other sums:—1,200*l.* for the improvement of supply to Ealing and Hanwell; 1,635*l.* for the improvements to the Crystal Palace tank, etc.; 11,751*l.* for purchase of land; and 3,163*l.* for the laying of mains at Southgate.

Battersea.—Certain alterations to the existing buildings and the carrying out of repairs and other works at Battersea was recommended, at the total estimated cost of 1,660*l.* It was agreed to carry out the work by the Board's own workmen.

Complications at Acton.—The Works Committee reported that their attention had been called to the fact that a 30-in. main in Chiswick-road, Acton, was laid in 1879 in such a position that the crown of a sewer had been cut away to enable the main to pass over it in a diagonal direction, the result being that for 40 ft. in length the main was practically built into the top of the sewer. The Chiswick Urban District Council alleged that the main had stopped up the sewer, and led to its partial silting up, and they had called on the Board to remove the main, to relay the sewer, and to pay the expenses of cleaning out the sewer above the point of intersection. The solicitor advised that the Board were under no legal liability in the matter, but the Engineer was of opinion that the present position of the main was dangerous, in view of the fact that a length of over 20 ft. was suspended without direct support, and was upholding the roadway and traffic above it.—It was decided to divert the sewer, and to negotiate with the District Council as to the cost.

Failure of Contractor.—The same Committee reported that Messrs. T. J. Hawkins & Co., whose tender of 24,480*l.* for the erection of an engine and boiler house at Hammersmith was accepted last year, and whose tender for the foundations of the Hadley-road pumping-station was accepted in July, had filed their petition in bankruptcy.—It was agreed to allow the special manager appointed by the Official Receiver to continue the work.

Other Works.—Amongst the new works which it was agreed to execute were the following:—Lowering of mains in Acre-lane, Brixton, at the estimated cost of 300*l.*; alterations and repairs to the Board's houses in the Western District, at an estimated cost of 493*l.*; alterations to smith's shop at Hampton, at estimated cost of 110*l.*; erection of fence at Tottenham, at cost of 150*l.*; laying of mains in Wareham-street, Lambeth, at a cost of 190*l.*; fencing of land at Palmer's Green, at cost of 198*l.*; laying of main to supply open-air swimming-bath erected by Chiswick Urban District Council, at a cost of 318*l.*; diverting mains at Scrubbs-lane, Hammersmith, at a cost of 1,000*l.*; and extension of mains at Brockley, at a cost of 200*l.*

General Building News.

CHRIST CHURCH CONGREGATIONAL CHURCH, NEW SOUTHGATE, N.

The foundation-stone of this building was laid on October 9. The design is in late Gothic. Bath stone is being used for the dressings, pressed red bricks for the facings, and pitch-pine for the joinery. The contract is let for 4,597*l.* to Mr. Jas. W. Jerran, Crown Works, East Ham, E.; the architects are Messrs. George Baines & Son, Clement's-inn, Strand, W.C.

MEMORIAL CHURCH, WALLASEY, LIVERPOOL.

Operations are to be began very shortly on the erection of the Harrison Memorial Church, Wallasey. The building will be constructed of Storeton stone, and will provide accommodation for 600 persons. The architect is Mr. J. Francis Doyle, Liverpool.

COUNCIL SCHOOLS, HESWALL.

New school buildings have been erected at Heswall under the supervision of the Administrative Sub-Committee for Education (Hoylake and West Kirby District). The premises have accommodation for 200 children. There are four classrooms and central hall, apartments for cookery centre, besides the usual teachers' rooms, and small kitchen for the children, with storeroom for dinner baskets. The plans provided possible accommodation for 100 more children. The contract has been executed by Messrs. Lever & Wilson (late Mr. S. Webster, Brasenose-road, Bootle), and the cost of the building amounts to 3,740*l.* The architects are Messrs. Deacon & Horsburgh.

MANCHESTER UNIVERSITY.

The new chemical laboratories of Manchester University—they have been named in honour of the Chancellor, the "John Morley Laboratories"—were opened on the 4th inst. They form the completion of the south-western corner of the western court. The architect was Mr. Paul Waterhouse, and the work has been carried out by Messrs. George Macfarlane & Son, contractors, Manchester, and superintended by Mr. L. Knowles.

NEW GUILDHALL, DERRY.

The Derry Corporation have approved the plans prepared by the City Architect, Mr. M. A. Robinson, for the new Guildhall, which is to be built in place of the one burned down.

PROPOSED INSTITUTE PREMISES, CARDIFF.

The Cardiff Public Works Committee have approved plans of a proposed temperance institute and swimming-baths at Clarence-road. The designs were prepared by Mr. E. W. M. Corbett, architect, and the work is estimated to cost about 8,000*l.* or 10,000*l.* The institute will include a swimming-bath, reading, billiard, lecture rooms, etc.

WORKHOUSE EXTENSIONS, MANSFIELD.

The Building Committee of the Mansfield Board of Guardians have instructed Mr. L. A. Westwick, architect, to prepare plans for a building to accommodate thirty children at the Dallas-street end of the workhouse grounds. The cost of the scheme is estimated at 1,150*l.*

PUBLIC HALL, LYTHAM.

An institute and public hall has been opened at Ansdell, near Lytham. The building has been erected from a design by Mr. G. H. Willoughby, F.R.I.B.A., of Manchester and St. Annes, and the estimated cost is 5,000*l.*

BURSLEM MUNICIPAL BUILDINGS.

The Burslem Town Council, at their meeting on Monday, considered recommendations of the General Purposes Committee to the effect that the previous decision of the Council to erect new municipal buildings be confirmed, and that the new Public Buildings Committee be authorised to instruct the architects (Messrs. Russell & Cooper, of London) to prepare complete plans and specifications and obtain tenders for the approval of the Council.—The ex-Mayor, Alderman S. Malkin, in moving the adoption of the recommendations, said they had held a competition for the proposed buildings, and they had employed architects and selected a plan. It was well known to all of them that the plan which was placed first in the competition was not considered by local men suitable for the town, and so a sub-committee was deputed to wait upon the architects, and the result was that they now had a set of plans, which, apart from the question of cost, commended themselves to the majority of the members of the Council. By these plans they would have buildings which would serve the purposes of the town in various ways. All the rooms were so linked up that the whole of the buildings could be used as one building, or they could be divided up so that two sets of meetings or functions could be held at the same time in the same buildings. The cost he set down at the outside figure of 30,000*l.*, though he did not think it would reach that sum, and to meet it they had 16,000*l.* in the bank. The proposal was that they should proceed with the work, and, when the federated Council of the whole of the Potteries towns came into being next March, that they should ask that federated Council to raise the balance of 14,000*l.* by loan, chargeable on the Burslem portion of the area alone.—Considerable opposition was shown to the proposal, but in the result the Committee's recommendations to proceed with the work were adopted by eleven votes to six.

Stained Glass & Decoration.

PARISH CHURCH, NEWHAVEN.

In the parish church, Newhaven, Sussex, a stained-glass window has been erected by a former curate, the Rev. T. H. Russell, to the memory of the Rev. E. P. Southwell, M.A., rector for forty-five years. This window, together with a three-light chancel window in Christchurch, Newhaven, is from the studios of Messrs. William Morris & Co. (Ruskin House), Ltd., Rochester-row, Westminster, S.W.

PROPOSED CHANCEL SCREEN, FOWEY PARISH CHURCH.

A faculty has been granted for the erection of a chancel screen in the parish church at Fowey. The cost is estimated at about 450*l.* The designs for the work have been prepared by Mr. Edmund Harold Sedding, architect.

Miscellaneous.

PROFESSIONAL AND BUSINESS ANNOUNCEMENTS.

Messrs. Read & Macdonald, architects, have removed their offices from 4A, Cork-street to 16, Cork-street, Bond-street, W.——Mr. Thomas Athey, formerly manager of Messrs. Spencer, Santo, & Co., building contractors, of Warwick-road, Kensington, has joined the staff of the British Uralite Company, of 16, St. Helen's-place, E.C.——The Expanded Metal Company, Ltd., have appointed Mr. B. J. Miller, one of their works representatives, to succeed the late Mr. Harry Mason as their representative in Manchester and district. The Company's Manchester address has been changed to Temple-chambers, 33, Brazenose-street, Manchester.

PROPOSED NEW TOWN HALL FOR MARYLEBONE.

On Thursday last week the Marylebone Borough Council was again unable to consider the proposal to build a new town hall owing to the failure to obtain a quorum when the matter came on for discussion. The question, therefore, will have to be considered at the next meeting. The suggestion before the Council is that the Committee shall be instructed to prepare an estimate of the probable cost of the erection of a new town hall on the lines of the plans recently submitted by Mr. E. A. Lanchester on (1) the site of the St. Marylebone Charity School for Girls, and (2) the site in Seymour-place, bounded by Nutford-place, Brown-street, and Queen-street.

PREFERENCE FOR LOCAL LABOUR.

The Middlesbrough Corporation have decided to insert a clause in their contract for the erection of the new free library to the effect that preference be given to the employment of local workmen, and that the contractor shall undertake to engage Middlesbrough unemployed men for the carrying out of the unskilled labour required on the work.

STREET IMPROVEMENTS, GLOUCESTER.

The Gloucester City Council having applied to the Local Government Board for sanction to borrow sums amounting to 2,650*l.* for the purchase of property for the widening of Berkeley-street, Westgate-street, and London-road, Mr. Edgar Dudley, F.S.I., Inspector to the Local Government Board, recently held a local inquiry into the matter. Mr. G. Sheffield Blakeway, Town Clerk, gave particulars of the proposals, and Mr. R. Read, City Surveyor, and Mr. E. W. A. Carter, Assistant Surveyor, were present at the inquiry.

BUILDERS AS COUNCILLORS.

At the last meeting of Wimbledon Town Council the question of builders serving upon committees who had the duty of considering, passing, and rejecting building plans was brought up. Mr. Holloway, who was the gentleman particularly referred to, said he always took care not to be in the room when the Committee were considering his plans. It was desirable, he contended, that those who had a practical and technical knowledge of buildings should be on such committees. Mr. Penny, on the other side, expressed the opinion that it was improper for any member of the Council who was a builder to serve on such a committee, as it gave the member an undue advantage over other builders, and handicapped the officials. Alderman Brasier corroborated Mr. Holloway's statement that he was never in the room when his plans were under consideration. Mr. Holloway said that if members had any idea that he was unduly favoured by the officials, he could undertake to prove that the officials were more stringent with him than with builders who were not members of the Council. Mr. Woodlands said he knew for a fact that Mr. Holloway was perfectly right in his assertion that the officials were not so particular with outsiders as with Mr. Holloway. The officials did this, of course, so that they would be above suspicion, and they could hardly be blamed under the circumstances. While he could say without fear of contradiction that Mr. Holloway received no favour in this connexion, he (Mr. Woodlands) was of opinion that a councillor who was a builder ought not to sit on the Buildings Committee. Mr. Holloway explained that he had not asked to go on the Committee—he had been put upon it. He inquired, was not the chairman of the Committee a builder, and he further desired to know, could they get a better man to do the work? Were they going to exclude him? Mr. Penny: Yes. Mr. Holloway went on to ask who they were going to put on the Committee? Were they going to put on the Committee people who knew nothing about building—men who did not know the difference between a section and an elevation? In conclusion Mr. Holloway said he had no desire to be a member of the Committee, and after the remarks that evening he would take good care not to sit on the Committee again. The incident then closed.

APPOINTMENT OF SANITARY OFFICERS.

The Local Government Board has sanctioned the appointment or increase of salaries of sanitary officers as follows:—Metropolitan Borough of Chelsea, Mr. H. H. Clay in place of Mr. A. G. Kemp, resigned; Metropolitan Borough of St. Marylebone, Miss F. A. Baker, salary increased; Metropolitan Borough of Woolwich, Messrs. J. W. Rance, W. Wood, W. Little, A. G. Potter, W. Tedham, and T. Powell, and Mr. H. Shaw; City of Westminster, Mr. H. R. Hardy in place of Mr. J. P. Folland, deceased; City of London, Miss A. M. Wilkinson in place of Miss D. Barron, resigned; Messrs. J. Dunworth and A. Wheaton, salaries increased.

THE NEW LAW COURTS.

During the holidays the Law Courts have been thoroughly overhauled by a staff of some 200 painters and labourers, and several important improvements have been effected. In the central hall the second of the staircases and balconies to relieve the congestion in the court corridors are now almost completed. Substantial progress has been made with the building of the new courts on the Strand garden. There has been much competition, says the *Standard*, to secure the four new courts, which are to be large, roomy, and well-ventilated chambers, each 36 ft. by 45 ft., but it is now generally understood that they are to be appellate courts and courts for the Probate and Divorce Division. One is to be the Court of Criminal Appeal, another an Appeal Court, and the remaining two Divorce Courts.

DALKEY GRANITE QUARRY.

Answering Mr. Field in the Parliamentary papers, Mr. Hobhouse states that the reason that the Dalkey granite quarries have been closed for many years is because the Board of Works had at Kingstown Harbour a sufficient reserve of granite to meet all probable requirements. The Board do not require a granite supply in the neighbourhood. As to the advisability of arranging that the quarries may be opened so as to give employment in the locality, the Commissioners of Kingstown Harbour advertised in April, 1907, in the Dublin newspapers, inviting tenders for the renting of the quarries at Dalkey, with a result that they received no offer which they could entertain.

Patents.

APPLICATIONS PUBLISHED.*

19,494 of 1908.—Daniel Gerald Somerville: Reinforced concrete construction.

19,923 of 1908.—John Thomas Simpson: Means for reinforcing concrete construction.

21,803 of 1908.—Wilheim Seigfried Georg Schaefer: Joints for hollow mouldings.

21,929 of 1908.—Charles Wesley Gray and Bertram Lawrence Hurst: Glazing bars or astragals for skylights, windows, and the like.

22,886 of 1908.—John Winder: Metal shears, punches, and the like.

23,805 of 1908.—Joseph Hayton: Concrete, brick, and other pipes, tubes, culverts, arches, and the like.

26,393 of 1908.—Herbert John Buggs: Manhole-cover frames and the like.

2,259 of 1909.—William McGeoch: Window-sash fittings.

2,814 of 1909.—Pierre van Leeuw: Reinforced concrete girders and floors, or the like.

5,742 of 1909.—Tom Hirst and Cyrus Jones: Moulds for silica bricks and like firebricks.

8,317 of 1909.—Joseph Franklin Ross: Apparatus for moulding concrete.

9,160 of 1909.—Jules Leopold Hubert Ghislain Bosmans: Concrete brick for hollow walls.

12,498 of 1909.—Frederick Dalby and Samuel Benson: Paint and the like.

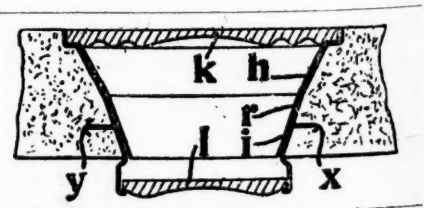
14,746 of 1909.—Albert Cauchemont: Chimney and ventilating shaft-tops.

15,219 of 1909.—Louis Hyacinthe Peters: Weather excluding sashes and the like.

16,710 of 1909.—William Herbert Percy: Reinforced concrete articles, structures, and structural members.

SELECTED PATENTS.

9,046 of 1908.—Emil Ferdinand Hassart and British Luxfer Prism Syndicate: Pavement lights. This relates to lights for pavements, and consists in providing metallic frames for securing the lenses, which frames are embedded in concrete, and are provided with hooked projections or lugs for reinforcing the concrete and holding the frames together. Each frame is provided with sides *h*, *i* inclined at different angles, and coated with a reflecting surface *r*, top and bottom lenses *k*, *l*, and projections *x*, *y*,



which may be connected to projections on adjacent frames by wires, or hooked over rods embedded in the concrete.

9,065 of 1908.—Charles Martin Markham: Moulds for use in concrete constructions. This relates to moulds for use in concrete constructions, which are made with detachable parts. The side members of the mould can be readily removed when the concrete has set sufficiently to retain its shape, while the bottom members are permitted to remain until the concrete has fully set. In a mould used in the construction of beams, the bottom member 1 is

* All these applications are in the stage in which opposition to the grant of patents upon them can be made.

PATENTS.—*Continued on page 423.*

List of Competitions, Contracts, etc.

For some Contracts still open, but not included in this List, see previous issues. Those with an asterisk (*) are advertised in this Number: Competitions, iv.; Contracts, iv. vi. viii. x.; Public Appointments. xvii.; Auction Sales, xxiv.

Certain conditions, beyond those given in the following information, are imposed in some cases, such as: the advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bonâ-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

***** It must be understood that the following paragraphs are printed as news, and not as advertisements; and that while every endeavour is made to ensure accuracy, we cannot be responsible for errors that *may* occur.**

Competitions.

OCTOBER 31.—**Pembrokeshire.**—FARMHOUSE, ETC.—The Pembrokeshire Small Holdings and Allotments Committee invite model plan and specification for a farmhouse and outbuildings. For further particulars see advertisement in our issue of October 9.

NOVEMBER 1.—**Kendal.**—TECHNICAL SCHOOL.—The Corporation of the Borough of Kendal invite architects residing and practising in Westmorland to submit a competitive design, together with a written description and estimate for the erection of a technical school in the said Borough. A premium of 15*l.* is offered for the design considered by the Corporation first in order of merit, and further premiums of 10*l.* and 5*l.* respectively for those which are, in their opinion, second and third in order of merit; such designs, on payment of the promised premiums, shall become the absolute property of the Corporation. Particulars, etc., together with the plan of site, showing levels, etc., may be obtained free, on application to the Borough Surveyor. (Mr. J. E. Bolton, Town Clerk.)

NOVEMBER 1.—**Preston.**—GRAMMAR SCHOOL.—The Corporation of Preston invite architects practising as principals to submit competitive designs and plans for a new grammar school for boys, to be erected in Moor Park-avenue, Preston, and estimates for the same. Premiums of 50*l.*, 30*l.*, and 20*l.* Conditions of competition and plan of site will be sent on application to Mr. Alfred Howarth, Town Clerk, Town Hall, Preston.

NOVEMBER 30.—**Herne Bay.**—PAVILION ON PIER.—The Herne Bay U.D.C. invite designs for pavilion on pier. Two premiums are offered. For further particulars see advertisement in our issue of August 28.

* NOVEMBER 30.—**Workington.**—SCHOOL.—The Cumberland Education Committee invite sketch plans, etc., for a Technical and Secondary School at Workington, Cumberland. See advertisement in thig issue for further particulars.

* DECEMBER 17.—**London.**—DESIGN FOR A FACADE.—The proprietors of the *Builder* offer a first prize of 20 guineas and a second prize of 10 guineas for the two best designs for a suggested new façade to the Institute of Architects' House. See advertisement in this issue for further particulars.

DECEMBER 18.—**Headingley, Leeds.**—TRAINING COLLEGE.—Leeds Education Committee invite architects practising in Leeds to submit competitive designs for proposed training college for teachers, Kirkstall Grange, Far Headingley, Leeds. Sir Aston Webb, C.B., R.A., F.R.I.B.A., has been appointed to assist and advise the Committee in deciding the competition. On the payment of a deposit of 2*l.* 2s. each competing architect may obtain a copy of the conditions of competition, etc. Mr. James Graham, Secretary for Education, Education Department, Leeds.

JANUARY 31.—**Cardiff.**—NATIONAL MUSEUM.—The Council invite competitive designs for the erection of a new National Museum at Cardiff. Premiums of 200*l.*, 150*l.*, and 100*l.* for second, third, and fourth places. Particulars on receipt of a deposit of 2*l.* 2s. from Dr. Wm. Evans Hoyle, Director of the Museums, City Hall, Cardiff. For further particulars see advertisement in our issue of August 28.

Contracts.

BUILDING.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

OCTOBER 16-23.—**Newtonmore.**—HOTEL ADDITIONS.—Mason, carpenter, plumber, slater, plaster, and painter and glazier works of extensive additions to Craigmhor Hotel, Newtonmore; also for the removal of old buildings. The plans, etc., may be seen with Mr. Alex. Cattanach, architect, Kingussie. Intending offerers are requested to meet the architect at the hotel on the 16th inst. at 1 o'clock p.m.

OCTOBER 18.—**Barnsley.**—SCHOOL.—The Governors of the Barnsley and District Holgate Grammar School invite tenders for the erection of a boys' grammar school in Shaw-lane, Barnsley, according to drawings, etc., prepared by Messrs. Crouch, Butler, & Savage, architects, of Birmingham. Names to Mr. G. Alfred Bond, Clerk to the Governors, 8, Regent-street, Barnsley, together with a deposit of 2*l.* 2s.

OCTOBER 18.—**Cork.**—NEW TECHNICAL SCHOOL.—The Cork County Borough Technical Instruction Committee invite tenders for the erection of a technical school to plans, etc., prepared by Mr. Arthur Hill, B.E., F.R.I.B.A., 22, George's-street, Cork, from whom quantities can be obtained on payment of 1*l.* 1s. All the work must, as far as possible, be executed in the City.

OCTOBER 18.—**Dumfries.**—ADDITIONS.—Tenders are invited for the mason, joiner, slater, plaster, glazier, and painter works of additions to Friars Carse Mansion House, Dumfries, for Mr. C. W. Dickson. Plans, etc., may be seen, and schedule of quantities obtained, on application to Messrs. James Barbour & Bowie, architects, 53, Buccleuch-street, Dumfries.

OCTOBER 18.—**Longroyd Bridge.**—HOUSES.—Works (joiner's work excepted) required to be done in the erection of two dwelling-houses at Longroyd Bridge. Plans may be seen, and bills of quantities obtained, at office of Mr. J. Berry, architect and surveyor, 5, Market-place, Huddersfield.

OCTOBER 18.—**Pollard in Wendron.**—COTTAGE.—For the erection of a cottage at Pollard in Wendron (Estates of Viscount Clifden and Lord St. Levan). Plans, etc., may be seen at the office of Mr. Arthur Pearse Jenkin, Trewirgie, Redruth.

OCTOBER 18.—**Rochford.**—ADDITIONS TO INFIRMARY.—The Guardians invite tenders for an addition to the Infirmary at Rochford, in accordance with a plan, etc., which may be seen at the Workhouse.

OCTOBER 19.—**Aviemore.**—VILLA.—Estimates wanted for all departments of new villa to be erected at Aviemore. Plans, etc., may be seen with the architect, Mr. Alexander Mackenzie, C.E., Kingussie.

OCTOBER 19.—**Kinsale.**—COTTAGES.—The Kinsale R.D.C. invite tenders for building cottages. A deposit of 2*l.* per cottage must be lodged with each tender. On the same date tenders for fencing plots and for additions to and repair of existing cottages will also be considered. Tender forms, etc., can be had on application from Mr. Edward Murphy, Acting Clerk of Council, Council Office, Kinsale Workhouse.

OCTOBER 20.—**Dunfermline.**—PREMISES.—Mason, joiner, plumber, slater, plaster, steel, and tile works in connexion with the erection of new premises, 125, High-street, Dunfermline, for Mr. Angelo Maloco. Plans may be seen, and schedules of quantities obtained on application to Mr. T. Hyslop Ure, architect and surveyor, 43, Carnegie-street, Dunfermline.

OCTOBER 20.—**Horwich.**—SUBWAY.—Lancashire and Yorkshire Railway Directors invite tenders for the construction of a subway at Horwich for a line of water pipes. Plans can be seen, and copies of tender, etc., obtained, on application at the Engineer's Office, Hunts Bank, Manchester.

* OCTOBER 20.—**Jersey.**—SOLDIERS' QUARTERS.—The Secretary of State for War invites tenders for erection of twenty-one married soldiers' quarters at Jersey. See advertisement in this issue for further particulars.

OCTOBER 21.—**Carrick-on-Shannon.**—COTTAGES.—For erection of single labourers' cottages, for the Carrick-on-Shannon No. 2 R.D.C., in accordance with plan, etc., which may be seen at the Board-room, Union Workhouse, Carrick-on-Shannon. A deposit of 1*l.* to be lodged with each tender.

OCTOBER 21.—**Crewe.**—POLICE-STATION.—Tenders are required for the erection of new County Police-station at Ford-lane, Crewe. Plans, etc., can be seen at the office of Mr. H. Beswick, F.R.I.B.A., County Architect, Chester, and quantities obtained on deposit of 1*l.*

OCTOBER 21.—**Leeds.**—IMPROVEMENTS TO BEESTON COUNCIL SCHOOL.—Apply to the Architect's Section, Education Department, when quantities will be forwarded.

OCTOBER 21.—**Millbrook.**—CHURCH RESTORATION.—Works of restoration to be carried out at Millbrook Old Church. Drawings, etc., can be seen on application to the Rev. G. G. Elton, at Millbrook Rectory, or at the office of the architect, Mr. B. D. Cancellor, 12, Jewry-street, Winchester.

* OCTOBER 21.—**Orsett.**—ADDITIONS TO WORKHOUSE.—The Orsett Guardians invite tenders for carrying out additions to the Workhouse. See advertisement in this issue for further particulars.

OCTOBER 21.—**Sheffield.**—ADAPTATION.—The Commissioners of His Majesty's Works and Public Buildings invite tenders for the adaptation of premises, Suffolk-road, Sheffield, for a Labour Exchange. Drawings, etc., may be seen on application to the Postmaster at Sheffield. Forms of tender may be obtained on application to the Secretary, H.M. Office of Works, etc., Storey's-gate, London, S.W.

OCTOBER 22.—**Ballykisteen.**—DWELLINGS.—Four labourers' dwellings adjacent to the Stud Farm at Ballykisteen for Mr. George Edwards. Plans, etc., can be inspected at the offices of Mr. J. W. R. Harris, Stud Farm, Ballykisteen, Limerick Junction, Co. Tipperary.

OCTOBER 22.—**Castleford.**—SCHOOL WORKS.—The West Riding Education Committee invite whole or separate tenders for alterations, Welbeck-street Provided School, Castleford. Plans may be seen, and specifications, etc., obtained, on application to the West Riding Architect, County Hall, Wakefield. A deposit of 1*l.* must be sent by separate letter to the West Riding Treasurer, County Hall, Wakefield.

OCTOBER 22.—**Great Yarmouth.**—ADDITIONS.—The Education Committee invite tenders for alterations and additions to the offices at Runham Vauxhall School. A plan, etc., can be seen, and forms of tender obtained, at the office of the Borough Surveyor, Town Hall.

OCTOBER 22.—**Merton.**—CART-SHED.—Merton U.D.C. invite tenders for the following works:—(*a*) The erection of a cart-shed, etc.; (*b*) road-making and sewering works in Cannon Hill-lane. Plans, etc., may be seen, and forms of tender obtained, on application to Mr. G. Jerram, Surveyor, Council Offices, Merton.

OCTOBER 22.—**Mytholmroyd.**—SCHOOL WORKS.—The West Riding Education Committee invite whole or separate tenders for alterations, Burnley-road Provided School, Mytholmroyd. Plans may be seen, and specifications, etc., obtained, on application to the West Riding Architect, County Hall, Wakefield. A deposit of 1*l.* must be sent by separate letter to the West Riding Treasurer, County Hall, Wakefield.

OCTOBER 23.—**East Prawle.**—BARN WORKS.—For executing the works required in connexion with the restoration of the barn, etc., at Higher Farm, East Prawle, near Kingsbridge. Specifications on application to the tenant, and all further information may be obtained of Messrs. White & Colley, land agents and surveyors, Avonwick, South Brent.

OCTOBER 23.—**Kingussie.**—SHOPS, ETC.—Estimates wanted for mason, carpenter, slater, plumber, plasterer, and painter and glazier works for block of shops and dwelling-houses in High-street, Kingussie. Plans, etc., may be seen with the architect, Mr. Alexander Mackenzie, C.E., Kingussie.

* OCTOBER 23.—**St. Annes-on-the-Sea.**—COTTAGES.—The St. Annes-on-the-Sea U.D.C. invite tenders for erection of eighteen workmen's cottages. See advertisement in this issue for further particulars.

OCTOBER 25.—**Cwmbran.**—ALTERATIONS TO POLICE-STATION, ETC.—Monmouth Standing Joint Committee invite tenders for additions and alterations to Cwmbran Police-station and Court. Plans, etc., may be seen at the office of Mr. William Tanner, F.S.I., County Surveyor, and a copy of the quantities obtained, on payment of 1*l.* 1s.

OCTOBER 25.—**Rowley Regis.**—HOUSE FOR MOTOR FIRE ENGINE.—Rowley Regis U.D.C. invite tenders for the erection of a house for a fire engine and a tower for hose-drying at Halesowen-road, Old Hill. Plan, etc., may be seen at the Council Offices.

* OCTOBER 26.—**Lichfield.**—ENLARGEMENT OF SCHOOL.—The Staffordshire Education Committee invite tenders for enlargement and improvement, Whittington Council School. See advertisement in this issue for further particulars.

OCTOBER 27.—**Armagh.**—RECONSTRUCTING.—For reconstructing premises in Scotch-street, Armagh, for Mr. Wm. Pinkerton. Plans, etc., can be obtained at the office of Mr. Sampson Jervois, architect, Armagh.

OCTOBER 27.—**Bedlinog, etc.**—SCHOOL WORKS.—Glamorgan C.C. invite tenders for (1) alterations to the master's house at the Council school at Bedlinog; (2) new offices at the Council school at Pontardulais; (3) new offices, etc., at the County school at Bridgend. Plans may be seen, and specification, etc., obtained, for Work No. 1 at the Bedlinog Council School, for Work No. 2 at the Pontardulais Police-station, and for Work No. 3 at the Bridgend Police-station. The plans, etc., of all the works may be seen or obtained at offices of Clerk of the County Council, Glamorgan C.C. Offices, Westgate-street, Cardiff.

OCTOBER 27.—**Farnworth.**—LIBRARY.—Farnworth U.D.C. invite tenders for the erection of a new Carnegie Library, in Market-street, Farnworth. Specifications, etc., may be obtained from the architect, Mr. Walter J. Lomax, 11, Fold-street, Bolton, on deposit of 5*l.*

OCTOBER 28.—**Bodmin.**—HOSPITAL.—For proposed new East Cornwall Hospital, Bodmin, in Rhind-street. Plans, etc., may be seen by appointment with Mr. Henry D. Foster, Hon. Sec., East Cornwall Hospital, Bodmin, or at the office of Mr. Morley B. Collins, architect, Clinton-road, Redruth.

OCTOBER 28.—**Morecambe.**—BANDSTANDS AND SHELTERS.—The Roads Committee of the Corporation of Morecambe invite designs and tenders from firms specialising in bandstands and shelters for the supply and erection of two bandstands and four shelters for the Morecambe promenades and greens. Full particulars may be obtained on application to Mr. J. W. Hopwood, A.M.Inst.C.E., Borough Surveyor, Morecambe.

OCTOBER 28.—**Pontardulais.**—CHAPEL.—Erection of Siloh Congregational Chapel, Pontardulais. Plans, etc., may be seen with Mr. Ben. Matthews, Goedwig, or with the architect, Mr. D. R. Jones, 40, Thomas-street, Llanelly. Bills of quantities may be had from Mr. Ben. Matthews on payment of 1*l.*

* OCTOBER 29.—**Cardiff.**—COUNTY HALL.—The Glamorgan C.C. invite tenders for erection of a County Hall in Cathays Park, Cardiff. See advertisement in this issue for further particulars.

NOVEMBER 3.—**Belfast.**—HOUSES.—The Belfast City and District Water Commissioners invite tenders for the erection of two workmen's houses and a store and outbuildings at their works at Oldpark, Belfast. The plans, etc., can be inspected at office of Mr. R. Hamilton, Secretary, Water Office, Belfast.

BUILDING—*continued.*

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

NOVEMBER 5.—**Runswick Station, Yorkshire.**—CONSTRUCTION OF TIMBER BOAT HOUSE AND SLIP.—The Committee of Management of the Royal National Lifeboat Institution invite tenders for the construction of a timber lifeboat house and slip on concrete foundations at Runswick. Plans, etc., may be inspected on application to the Local Hon. Secretary, Dr. J. B. Laverick, Hinderwell, S.O., Yorkshire, or at the office of the Engineer and Architect to the Royal National Lifeboat Institution, Mr. W. T. Douglass, M.Inst.C.E., 15, Victoria-street, Westminster, London, S.W. Copies of the bills of quantities and form of tender may be obtained on application to the Engineer and Architect, accompanied by a deposit of 1*l.*

NOVEMBER 11.—**Aberfan.**—HOUSES.—Erection of twenty-four or more dwelling-houses, together with the construction of roads and sewers, etc., at Aberfan, for the Pleasant View Building Club. Plans, etc., may be seen at the office of Mr. O. P. Bevan, architect and surveyor, Express-chambers, Merthyr Tydfil.

✱ NO DATE.—**Barnsley.**—SCHOOL.—The Governors of the Barnsley and District Holgate Grammar School invite tenders for a boys' grammar school in Shaw-lane, Barnsley. See advertisement in this issue for further particulars.

NO DATE.—**Cross Keys.**—HOUSES.—Erection of four houses, Cross Keys, for Mr. Moore. Plans and specification at office of Mr. Walter Rosser, architect, Victoria-terrace, Newbridge.

NO DATE.—**Ogmore Vale.**—OFFICES.—Erection of new offices, etc., at Ogmore Vale, Glam. Names and addresses to Messrs. Cory Bros. & Co., Ltd., Collieries and Estates Department, Cardiff.

NO DATE.—**Sherburn Hill.**—COTTAGES.—Erection of five cottages for Sherburn Hill Co-operative Society, Ltd., at Shotton Colliery. Application to Mr. L. G. Ekins, architect, Co-operative Wholesale Society, West Blandford-street, Newcastle-upon-Tyne.

NO DATE.—**Tonna, Neath.**—HOUSES.—Erection of six houses at Tonna, Neath. Plans, etc., can be seen at the Barley Mow, Tonna.

ENGINEERING, IRON, AND STEEL.

OCTOBER 18.—**Shirley.**—ELECTRIC LIGHT.—Southampton Corporation invite tenders for installing electric light at Shirley Police-station. Specification may be inspected upon application to Mr. H. F. Street, Borough Electrical Engineer.

OCTOBER 18.—**Warrington.**—DRYER REPAIRS.—The Sanitary Works Committee invite tenders for repairing a steam jacketted dryer, 6 ft. diameter by 13 ft. long. Further particulars may be obtained from the Manager, Longford Depôt, Warrington.

OCTOBER 21.—**Tonypandy.**—HEATING APPARATUS.—The Trustees of the English Wesleyan Chapel, Tonypandy, invite tenders for the installation of a heating apparatus in the Chapel. All particulars and view of the building may be obtained from Mr. Lewis Jenkins, butcher.

OCTOBER 22.—**Rotherham.**—LAUNDRY MACHINERY.—South Rotherham, Handsworth, and Kiveton Park District Isolation Hospital Committee invite tenders for the providing and fixing of laundry machinery at the Hospital. Plans, etc., at the office of Mr. J. E. Whitehead, the architect, 38, Bank-street, Sheffield.

OCTOBER 23.—**Bowdon Lodge, Cheshire.**—ELECTRIC LIGHTING, ETC.—Electric lighting and wiring at Altrincham County High School for Girls. Form of tender, etc., can be obtained at the offices of Mr. Jos. Howarth, Clerk to the Committee, Education Department, Market-street, Altrincham, on payment of a deposit of 1*l.* 1s. Plans may be seen at the offices of the architects, Messrs. Sankey & Cubbon, 4, Chapel-walks, Manchester.

OCTOBER 23.—**Bowdon Lodge, Cheshire.**—HEATING, ETC.—Heating and ventilation at the Altrincham County High School for Girls. Plans, etc., can be obtained at the offices of Mr. Jos. Howarth, Clerk to the Committee, Education Department, Market-street, Altrincham, on payment of a deposit of 1*l.* 1s.

OCTOBER 27.—**Ilkley.**—WROUGHT-IRON RAILINGS AND GATES.—Ilkley U.D.C. invite tenders for providing and fixing about 108 lin. yds. of wrought-iron railings, 2 ft. 6 in. high, on the boundary walls at the Town Hall, Ilkley, together with one pair of entrance gates and three hand gates. Particulars, etc., can be obtained from the Surveyor to the Council.

NOVEMBER 4.—**Walworth.**—For alterations to well and pumps at Newington Workhouse, Westmoreland-road, Walworth, S.E. — Southwark Guardians invite tenders for certain alterations to the existing well and pump at the establishment. Forms of tender and conditions of contract may be obtained on application to offices of Mr. Sydney Wood, Clerk, Union Offices, John-street West, Blackfriars-road, S.E., on payment of 1*l.* 1s. Drawings of the proposed works may be seen at the Newington Workhouse.

MISCELLANEOUS.

OCTOBER 18.—**Grantown-on-Spey.**—TENNIS COURTS.—Tenders are invited for the alteration and extension of the above courts. The engineer will meet intending contractors on the ground on the 18th inst., at 2 p.m.

OCTOBER 18.—**Nottingham.**—FENCING.—The Public Parks Committee of the Nottingham Corporation invite tenders for the supply and erection of about 880 yds. of sawn wood paled fencing and gates at Bulwell Hall Park. Copies of the specification, etc., may be obtained from Mr. Frank B. Lewis, City Architect, Guildhall, on payment of 2*l.* 2s.

OCTOBER 18.—**Petworth.**—CARTAGE.—Petworth R.D.C. invite tenders for the supply of two horses and two men for the cartage of water for steam rolling. Further particulars and forms of tender can be obtained on application to Mr. Ernest H. Staffurth, Clerk to the Council, Petworth.

OCTOBER 18.—**Petworth.**—STEAM ROLLING.—The R.D.C. invite tenders for steam rolling and scarifying the roads. Forms of tender and further particulars may be obtained on application to Mr. Ernest H. Staffurth, Clerk to the Council, Petworth.

OCTOBER 19.—**Bray.**—STEAM ROLLING.—Bray U.D.C. invite tenders for steam rolling and scarifying certain roads in the Urban District. Specification may be seen at Town Hall.

OCTOBER 19.—**Maldens and Coombe.**—FENCING, ETC.—The U.D.C. invite tenders for supplying and fixing about 685 yds. of unclimbable iron fencing on their recreation ground, Kingston-road, New Malden. Also for levelling (*a*) one cricket or football pitch; (*b*) two cricket or football pitches, on the north side of the Central-avenue, Beverley Park, New Malden. The drawings, etc., may be seen, and specifications, etc., obtained, on application to the Engineer and Surveyor, Mr. Reginald H. Jeffes, A.M.Inst.C.E., at the Council Offices, New Malden, upon payment of a deposit of 3*l.* 3s. in respect of the fencing contract, and 5*l.* 5s. in respect of the levelling contract, by cheque payable to the Council.

OCTOBER 19.—**Milnsbridge.**—BOWLING GREEN.—Forming and laying of a bowling green at George-street, Milnsbridge. Plan, etc., may be seen at offices of Messrs. P. Taylor & Co., architects, Milnsbridge.

OCTOBER 20.—**Hollingbourn.**—TOOLS, ETC.—Hollingbourn R.D.C. invite tenders for the supply of tools to be used on the Council's roads; also for three snow ploughs and two hand carts. A list of the tools required, and specifications of snow plough and hand cart, can be obtained of Mr. H. J. Bracher, Clerk to the Council, 33, Earl-street, Maidstone.

OCTOBER 20.—**Shaftesbury.**—STEAM ROLLING.—Shaftesbury R.D.C. invite tenders for steam rolling the roads. Contractors also to tender for scarifying the roads where necessary. Mr. James Burbidge, Clerk, Shaftesbury.

OCTOBER 21.—**Hollingbourn.**—TEAM LABOUR.—The R.D.C. invite tenders for the supply of horses, carts, and men, for use on the highways. Forms of tender, etc., can be obtained of Mr. J. S. Roper, Surveyor, Hollingbourn, or of Mr. H. J. Bracher, 33, Earl-street, Maidstone, Clerk to the Council.

OCTOBER 21.—**Holywood.**—STEAM ROLLING.—Holywood U.D.C. invite tenders for steam rolling 150 tons (about) road metal on Bangor-road. Particulars may be obtained from Mr. David Bell, Town Clerk, Town Hall, Holywood.

OCTOBER 22.—**Rhondda.**—FENCING, ETC.—Rhondda U.D.C. invite tenders for about 550 yds. of strong, unclimbable, wrought-iron fencing and gates. Particulars may be obtained on application to Mr. W. J. Jones, Engineer and Surveyor, at the Council Offices, Pentre, Rhondda.

OCTOBER 23.—**North Walsham.**—STEAM ROAD ROLLER.—North Walsham U.D.C. invite tenders for a 10-ton steam road roller, with scarifier, for a period of about forty working days. Mr. E. J. Simpson, Surveyor, North Walsham.

OCTOBER 23.—**Taunton.**—FURNISHING.—Taunton Borough Education Committee invite tenders (on forms to be obtained from Mr. George H. Kite, Town Clerk and Clerk to the Borough Education Committee, Municipal Buildings) for furnishing two rooms at the Housewifery Centre, North Town School.

OCTOBER 23.—**Taunton.**—FURNISHING.—Taunton Borough Education Committee invite tenders (on forms to be obtained from Mr. George H. Kite, Town Clerk and Clerk to the Borough Education Committee, Municipal Buildings) for furnishing and equipping the workshop at the North Town School.

OCTOBER 25.—**Hipperholme.**—TEAM LABOUR.—The U.D.C. invite tenders for team labour required on the highways and other works for twelve months. Conditions may be seen, and tender forms obtained, at the Council Offices, Hipperholme.

OCTOBER 25.—**Steeton.**—FURNITURE.—West Riding C.C. Education Department invite tenders for furniture required for Steeton new Provided School. Full particulars may be obtained from the Education Department (Elementary Branch), County Hall, Wakefield.

OCTOBER 27.—**London.**—FURNITURE.—The Receiver for the Metropolitan Police District invites tenders for the supply of furniture for the service of the Metropolitan Police for three years. Printed forms of tender, with full directions, may be obtained from the Receiver, at his office, New Scotland-yard, S.W.

✱ NOVEMBER 1.—**Hendon.**—COAL SLACK.—The Hendon U.D.C. invite tenders for supply of 200 tons of best nutty coal slack. See advertisement in this issue for further particulars.

✱ NOVEMBER 2.—**London.**—FURNITURE.—The London C.C. invite tenders for supply of cupboards, tables, blackboards, honours boards, hat and coat racks, art easels, bench hooks, etc. See advertisement in this issue for further particulars.

DECEMBER 1.—**Wanstead.**—SCAVENGING, ETC.—Wanstead U.D.C. invite tenders:—(1) For the weekly collection of household refuse and ashes; (2) for providing water-carts with horses, harness, and men; (3) for providing carts with horses, harness, and men for general cartage in connexion with the roads, etc. For further particulars apply at the Council Offices, Wanstead, N.E. (Surveyor's Department), where forms of tender can be obtained and contract form inspected.

NO DATE.—**Ossett.**—BOWLING GREEN.—Tenders wanted, relaying of bowling green at Ossett. For specifications apply Mr. F. W. Spencer, 5, George-street, Ossett.

PAINTING, etc.

OCTOBER 19.—**Blackrock.**—PAINTING.—The U.D.C. of Blackrock invite tenders for painting the railings in front of the Town Hall, Technical School, and Library, and the windows of Town Hall, Technical School, and Library. Specifications can be seen at office of Mr. R. Finlay Heron, Town Clerk, Town Hall, Blackrock, Co. Dublin.

OCTOBER 19.—**Brentford.**—PAINTING.—The U.D.C. invite tenders for (*a*) the painting of the Council Offices, Clifden House, Boston-road; (*b*) the painting of the roof trusses at the Brentford Market, Kew Bridge; (*c*) the planing and beeswaxing of the floor of the north ward of their Isolation Hospital, Clayponds-lane; (*d*) the painting of the exterior of the said hospital; and (*e*) the fixing of two new bed-pan and urinal sinks at the said Hospital. Forms of tender, together with specifications, etc., may be obtained on application to Mr. J. W. Croxford, the Surveyor, at his office, Clifden House, Boston-road, Brentford.

ROADS, SANITARY, AND WATER WORKS.

OCTOBER 18.—**Ennis.**—SIDEWALK.—The U.D.C. invite tenders for making 160 ft. of flagged and curbed sidewalk from the corner of the Old Ground Hotel to meet path at the Town Hall. Specification may be seen at office of Mr. Michael J. Carmody, Clerk to Council.

OCTOBER 18.—**Rotherham.**—PRIVATE STREET IMPROVEMENTS.—The Corporation of Rotherham invite tenders for the making-up of the following streets: Ekin-street, Templeboro'; Cambridge-street (east end); Eastwood Mount and South-street, Kimberworth. The drawings, etc., may be seen, and forms of tender, etc., may be obtained from Mr. Ernest B. Martin, A.M.Inst.C.E., Borough Engineer, Town Hall, Rotherham, on payment of a deposit fee of 10s. for each street.

OCTOBER 18.—**Warrington.**—STREET WORKS.—The Paving and Sewerage Committee invite tenders for the forming and paving of Alexandra-street. Drawings, etc., may be seen, and forms of tender, etc., obtained, at the office of the Borough Surveyor, Town Hall.

OCTOBER 19.—**Abbots Langley.**—DRAINAGE OF PROPERTY AT WATERSIDE.—The Watford R.D.C. invite tenders for the carrying out of small works of drainage and water supply to private property situated at Waterside. A plan, etc., can be seen, and further particulars obtained, on application to the Council's Surveyor, Mr. Ernest Lailey, 9, Market-street, Watford.

OCTOBER 19.—**Bedford.**—PAVING.—The Authority invite tenders for paving in Kempston-road, Harpur-street, and The Embankment, Bedford, according to plans, etc., which, with the form of contract to be entered into, can be seen, and any other information obtained, at the Borough Surveyor's Office, Town Hall, Bedford.

OCTOBER 19.—**Kilfenora.**—WATERWORKS.—Ennistymon R.D.C. invite tenders for carrying out certain repairs to the reservoir of the Kilfenora Waterworks in accordance with the plan, etc., prepared by Mr. Brian E. Sheehy, M.Inst.C.E., Limerick, which can be seen at office of Mr. Nicholas Griffy, Clerk of Council, Board-room.

OCTOBER 19.—**Smarden.**—SEWER.—West Ashford R.D.C. invite tenders for laying in about 1,330 yds. of 4-in. and 6-in. pipe sewer at Smarden, and for the construction of an outfall tank and filter. Plan, etc., may be seen at office of Mr. Alfred Sims, Surveyor to the Council, Surveyor's Office, Charing.

OCTOBER 20.—**Chiswick.**—MAKING-UP.—The U.D.C. of Chiswick invite tenders for the making-up of parts of Park-road, Grove Park Station-road, and Hazeldene-road (897 yds.). Forms of tender on application to Mr. E. Willis, A.M.Inst.C.E., Surveyor, Town Hall, Chiswick, where plans, etc., may be inspected.

OCTOBER 20.—**Leeds.**—WHARF ALTERATIONS.—For certain structural alterations (chiefly timberwork) to the existing loading stage on the canal wharf at the Sewage Works, Knostrop, Leeds. The contract documents and drawings can be inspected, and copies of the form of tender obtained, on application being made at the offices of Mr. G. A. Hart, Sewerage Engineer, Municipal Buildings.

OCTOBER 20.—**Rochdale.**—SEWERING.—The Paving, etc., Committee invite tenders for the sewering work required in Tell-street, Rochdale. Plans, etc., may be seen, and copies of the quantities and form of tender obtained, at the Borough Surveyor's office.

OCTOBER 20.—**West Derby.**—DIVERSION OF FOOTPATH, WALTON WORKHOUSE.—The Guardians invite tenders for the work required in connexion with the above from contractors having places of business, etc., within the Unions of West Derby, Township of Toxteth Park, or the Parish of Liverpool. A set of quantities can be obtained from Mr. Harris P. Cleaver, Union Clerk, Brougham-terrace, West Derby-road, Liverpool, on payment of 2*l.* 2s. Specifications and drawings can be seen at the office of the architect, Mr. C. H. Lancaster, Brougham-terrace, West Derby-road, Liverpool.

OCTOBER 21.—**Treherbert.**—WATER SUPPLY.—Llanybyther R.D.C. invite tenders for the proposed works of water supply at Treherbert, in the Parish of Pencarreg, and within one and a half miles from Lampeter Station. Plans, etc., will be deposited for inspection at the Lock and Key Inn, near Treherbert. Bills of quantities, etc., can be obtained of Mr. Joshua Evans, Sanitary Inspector, Llanybyther.

OCTOBER 22.—**Carnwath.**—DRAINAGE.—Tenders are invited for laying 2,200 lin. yds. of 8-in. and 9-in. fireclay pipes, etc. Schedules may be obtained, and plans seen, at the address of Mr. Wm. Allan Carter, M.Inst.C.E., engineer, 51, Queen-street, Edinburgh. A deposit of 1*l.* 1s. will be required. An engineer will attend at 11 a.m. at Carnwath Station on October 18.

OCTOBER 22.—**Wroxall, I.W.**—BURIAL GROUND.—Tenders are invited for road-making, fencing, planting, etc., in forming a burial ground for the Parish Council of Wroxall, Isle of Wight. Plans, etc., may be seen at the house of the Chairman of the Council, Mr. Henry Linington, Wroxall.

OCTOBER 25.—**Dunfermline.**—PIPING.—The Dunfermline District Committee of the C.C. of Fife invite offers for the work to be done in providing and laying about sixteen and a half miles of cast-iron distribution piping throughout the district under their charge. Drawings can be seen at the office of Mr. John D. Parker, C.E., 217, West George-street, Glasgow, from whom also copies of the specification,

ROADS, etc.—*continued.*

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

etc., may be obtained on payment of a deposit of 1*l.* 1s. An assistant engineer will meet contractors at the County-buildings, Dunfermline, at 10.45 a.m. on October 19.

OCTOBER 25.—**Finchley.**—MAKING-UP.—The U.D.C. of Finchley invite tenders for the making-up of private streets, together with all works incidental thereto. Plans, etc., may be seen at the offices of the Council's Engineer and Surveyor, Council Offices, Church End, Finchley, N., and copies of schedules, forms of tender, etc., supplied on the deposit of 2*l.* in respect of the documents for each street.

OCTOBER 25.—**Hornsey.**—ROAD REPAIRS.—The T.C. will receive tenders for the carrying out of repairs required to a part or section of the street called Stormont-road, Highgate. Forms of tender, etc., and particulars can be obtained from Mr. E. J. Lovegrove, Borough Engineer and Surveyor, Municipal Offices, Highgate.

OCTOBER 25.—**Southwick.**—MAKING-UP OF PRIVATE STREETS.—Southwick U.D.C. invite tenders for the work of sewering, levelling, paving, metalling, flagging, channelling, making good, and lighting certain portions of the private streets known as Southdown-road and road east side of Green. Plans, etc., may be seen, and the specification, etc., obtained of Mr. Geo. W. Warr, Surveyor to the Council, Town Hall, Southwick. The sum of 1*l.* 1s. will be required as a deposit.

* OCTOBER 26. — **Bromley.** — ROAD-MAKING.—The Bromley B.C. invite tenders for sewering, levelling, paving, metalling, channelling, and making good a portion of Plaistow-grove. See advertisement in this issue for further particulars.

OCTOBER 28. — **Birstall.** — ROAD WORKS.—The U.D.C. of Birstall invite tenders for the levelling, paving, flagging, and completing of Victoria-street. Plans, etc., may be seen on application to the Council Surveyor, Mr. Arthur Walker.

OCTOBER 28. — **Surbiton.** — STREET WORKS.—The U.D.C. of Surbiton invite tenders for private street improvement works at Lenelby-road and Tolworth Park-road, Surbiton. The drawings, etc., can be seen at office of Mr. Henry T. Mather, Engineer and Surveyor, Council Offices, Ewell-road, Surbiton, and a copy of the specification obtained. A deposit of 1*l.* 1s. must be made.

OCTOBER 29. — **Epsom.** — SEWAGE WORKS.—Epsom U.D.C. invite tenders for the execution of various works at their Sewage Farm, Hook-road, Epsom. Plans, etc., can be seen, and bills of quantities may be obtained, upon application to Mr. Edward R. Capon, Surveyor to the Council, Bromley Hurst, Church-street, Epsom, on a payment of 5*l.* 5s.

NOVEMBER 1. — **Headington and Marston.** — SEWERAGE.—The R.D.C. of Headington invite tenders for sewering and contingent works in the Parishes of Headington and Marston, and for an outfall sewer partially within the City of Oxford. Further particulars, etc., may be obtained, and plans may be seen, at the offices of the consulting engineer, Mr. H. Howard Humphreys, 28, Victoria-street, Westminster. Intending contractors will be required to deposit a sum of 5*l.* prior to particulars being furnished.

* NOVEMBER 1.—**Hendon.**—SEWER, ETC.—The Hendon U.D.C. invite tenders for sewering, kerbing, and channelling works. See advertisement in this issue for further particulars.

NOVEMBER 1. — **Killearn.**—RESERVOIR.—The Clydebank and District Water Trustees invite tenders for the completion of the reservoir on Burn Crooks, in the Parish of Killearn. Drawings may be seen at the office of the engineers, Messrs. Warren & Stuart, 94, Hope-street, Glasgow, from whom copies of the specification, etc., may be obtained on deposit of 5*l.* 5s. An assistant engineer will meet intending offerers on October 19 at Milngavie Station, at 9.50 a.m.

NOVEMBER 1. — **Pewsey.** — WATERWORKS.—Pewsey R.D.C. invite tenders for 5,592 lin. yds. of 4-in. and 3-in. cast-iron water mains, with valves, etc.; the providing and fixing of duplicate deep-well pumps, together with a windmill and an oil engine; the building of an engine-house, and the construction of a covered storage reservoir. The drawings, etc., may be seen at office of Mr. S. B. Dixon, Clerk to the Pewsey R.D.C., Pewsey. Copies of specification, etc., may be obtained from the engineers, Messrs. Fairbank & Son, C.E., of Lendal-chambers, York, on deposit of 3*l.* 3s.

NO DATE.—**Acrise.**—SANITARY WORKS.—The School Managers invite tenders:—(*a*) For the removal of soil from earth closets twice weekly, and for the removal of ashes occasionally; (*b*) for pumping and removing sewage from cesspool about three times per year. Further information may be obtained at the school, and tenders are to be sent to the Correspondent, Mr. A. E. Watts, 51, Guildhall-street, Folkestone.

STONES, MATERIAL, AND STORES.

OCTOBER 19. — **Brentford.** — GUERNSEY GRANITE SPALLS.—The Guardians invite tenders for the supply and delivery of 1,500 tons of best hard Guernsey granite spalls. Forms of tender may be obtained upon application. Mr. William Stephens, Clerk to the Guardians, Union Offices, Isleworth, W.

OCTOBER 19. — **Gosforth.** — ROADS, ETC.—Gosforth U.D.C. invite tenders for constructing roads and erecting wood fencing in connexion with the laying out of land for allotment purposes. All particulars can be obtained from the Surveyor, Mr. Geo. Nelson, A.M.Inst.C.E., Council Chambers.

OCTOBER 20.—**Hastings.**—TIMBER.—The Committee invite tenders for the supply of timber to the Technical Schools for the year 1910. Form of tender may be obtained at the Offices of the Committee.

OCTOBER 20. — **Ilkley.** — LIMESTONE AND GRANITE.—Ilkley U.D.C. invite tenders for limestone and granite. Mr. Frank Hall, Clerk, Council Offices, Ilkley.

OCTOBER 21. — **Fulham.**—TIMBER.—The Guardians of the Poor of Fulham Parish invite tenders for the supply of 50 fathoms of pole ends (St. Petersburg roundwood) for delivery at the Workhouse, Belmont, Surrey. Forms of tender may be obtained on application at office of Mr. E. J. Mott, Clerk to the Guardians, Guardians' Offices, 129, Fulham Palace-road, Hammersmith, W., or by forwarding a stamped addressed foolscap envelope.

OCTOBER 23.—**Dundee.**—RAILS, ETC.—Dundee T.C. invite tenders for the supply of (1) 45 tons steel tramway rails; (2) 60,000 creosoted deal paving blocks. Specifications may be seen, and schedules of quantities, etc., obtained, at the office of Mr. Jas. Thomson, City Engineer, 91, Commercial-street, Dundee.

OCTOBER 25.—**Glyncorrwg.**—STORES.—The U.D.C. invite tenders for (1) cast-iron pipes; (2) stoneware pipes; (3) limestone metalling; (4) paving kerb and channel, etc. Particulars, together with any information required, may be obtained upon application to Mr. W. P. Jones, Surveyor, Council Offices, Cymmer, Port Talbot.

OCTOBER 25. — **Mountain Ash.** — STORES.—The Mountain Ash U.D.C. invite tenders for the supply of electrical stores in connexion with their electricity undertaking. Conditions of contracts, etc., may be obtained on application to Mr. W. G. Thomas, Surveyor's Office, Town Hall, Mountain Ash, or at the office of Mr. B. J. Day, electrical engineer, 3, Park-place, Cardiff.

OCTOBER 26. — **Frinton-on-Sea.** — GRANITE. — Frinton-on-Sea U.D.C. invite tenders for the supply and immediate delivery of not less than 200 tons of Quenast, Guernsey, or other approved granite. Forms of tender and further particulars may be obtained from Mr. E. M. Bate, Surveyor to the Council.

OCTOBER 27. — **Llantrisant and Llantwit Fardre.**—MATERIALS.—The R.D.C. invite tenders for the supply and haulage of materials. Specifications, etc., may be obtained from Mr. Gomer S. Morgan, Surveyor, School-street, Pontyclun.

OCTOBER 28.—**Newtownards.**—LIME.—The U.D.C. invite tenders for the supply of lime to the Gasworks for twelve months. Mr. H. M'Cartney, Clerk to the Council, Council Offices, Town Hall, Newtownards.

OCTOBER 30. — **Dublin.** — STORES.—Great Northern Railway Company (Ireland) Directors invite tenders for the supply of stores for twelve months. Forms of tender can be obtained from the Secretary on payment of 1s. for each form (stamps not to be sent).

NOVEMBER 2.—**Barry.**—STORES.—The Barry Railway Company invite tenders for the supply of general stores and materials. Specifications, etc., may be obtained from Mr. E. T. Lawrence, Secretary, Company's Offices, Barry Docks, Glam.

NOVEMBER 8. — **Aberdare.** — OILS, ETC. — The Directors of the Powell Duffryn Steam Coal Company, Ltd., invite tenders for the supply of:—No. 16.—Oils, tallow, and grease. Forms of tender and all particulars can be obtained on application to the Stores Manager, Aberaman Offices, Aberdare.

Public Appointment.

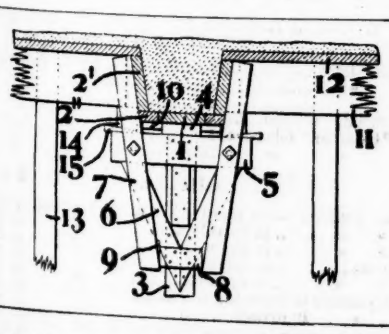
Nature of Appointment.	By whom Advertised.	Salary.	Application to be in
*ASSISTANT ENGINEER	Hong Kong Pub. Wks. Dept.	See advertisement in this issue	Oct. 29

Auction Sales.

Nature and Place of Sale.	By whom Offered.	Date of Sale.
*PLANT AND MACHINERY, TIMBER MERCHANT—Royal Wharf, Fulham	D. White	Oct. 26
*FREEHOLD PROPERTY, CITY OF LONDON—At the Mart	Edwin Fox & Bousfield	Oct. 27
*BUILDING PLANT & MATERIALS, KENNINGTON PARK-RD., S.E.—On the Premises	H. J. Bromley	Oct. 28
*LEASEHOLD PREMISES, BATTERSEA BRIDGE—At the Mart	Harold Griffin	do.
*WDWRKG. MCHRY., PLANT, STORES, ETC., BELVEDERE-ROAD, S.E.—On the Premises	Fuller, Horsey, Sons, & Cassell	Nov. 10
*FREEHOLD BUILDING LAND, ALDERSHOT, FARNBOROUGH, & BISLEY—At the Mart	Farebrother, Ellis, Egerton, Branch, & Co.	Nov. 11

PATENTS—*Continued from page* 420.

supported by posts 3 and intermediate wood blocks 4. The side members, comprising parts 2′ 2″, are kept in line with the bottom member



by double wedges 10 and are clamped to it by timbers 7, to which the parts 2′ are attached and which are pivotally mounted on cross-beams 5, the clamping action being obtained by driving-in wedges 9 between the bottom ends of the timbers 7 and blocks 8, secured to the posts or to the braces 6. Wooden beams 11, which support the floor mould 12, are supported by vertical members 13, and blocks 14, which rest on wedges 15 driven in between the blocks and the cross-beams 5. A space is left between the beams 11 and the side members 2 to allow ready removal of the latter.

SOME RECENT SALES OF PROPERTY:

ESTATE EXCHANGE REPORT.

September 29.—By R. L. ASHTON (at Holsworthy).

Bradworthy, Devon.—West Down Estate, 192 a., f.	£3,962

September 30.—By PAXTON & HOLIDAY (at Banbury).

Moreton Pinkney, Northants.—The Lodge Farm, 192 a. 0 r. 9 p., f.	3,100

October 4.—By R. W. FULLER, MOON, & FULLER.

Ewell, Surrey.—1 and 2, Tudor-cottages, f., w.r. 46*l.* 16s.	£670
Cheam-rd., freehold land, 5½ a.	1,950
Kingston-rd., freehold land, 4 a.	570

By RIPPON, BOSWELL, & WHITAKER (at Copplestone).

Crediton, Devon.—Elston Barton Farm, 121 a. 1 r. 16 p., f.	3,961

October 5.—By BREADMORE & WEBB.

Kew.—9, Ennerdale-road, u.t. 67 yrs., g.r. 2*l.*, p.	1,000

October 6.—By BEARD & SON.

Westbourne Park.—46, Great Western-rd. (s), u.t. 53 yrs., g.r. 11*l.*, e.r. 60*l.*	475

By GEO. BILLINGS.

Hackney.—16, Queensdown-rd., f., y.r. 50*l.*	620

By BRODIE, TIMBS, & CO.

Palmers Green.—12, Old Park-villas, u.t. 85¾ yrs., g.r. 7*l.* 10s., y.r. 46*l.*	450

By GORDON & GORDON.

Beckenham.—32, Pelham-road, u.t. 59 yrs., g.r. 5*l.*, e.r. 26*l.*	160

By HEATH, BROOK, & SNEATH.

Dulwich.—25 to 29, Worlingham-rd., u.t. 73 yrs., g.r. 30*l.*, gross rentals 188*l.* £1,135

By A. BURTENSHAW & SON (at Hailsham).

Hurstmonceux, Sussex.—Rocks Farm, 8 a. 1 r. 25 p., f. 475

Contractions used in these lists.—F.g.r. for freehold ground-rent; l.g.r. for leasehold ground-rent; i.g.r. for improved ground-rent; g.r. for ground-rent; r. for rent; f. for freehold; c. for copyhold; l. for leasehold; p. for possession; e.r. for estimated rental; w.r. for weekly rental; q.r. for quarterly rental; y.r. for yearly rental; u.t. for unexpired term; p.a. for per annum; yrs. for years; la. for lane; st. for street; rd. for road; sq. for square; pl. for place; ter. for terrace; cres. for crescent; av. for avenue; gdns. for gardens; yd. for yard; gr. for grove; b.h. beerhouse; p.h. for public-house; o. for offices; s. for shops; ct. for court.

PRICES CURRENT OF MATERIALS.

*** Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

BRICKS, &c.

	£ s. d.	
Best Stocks	1 6 6	per 1000 alongside, in river.
Picked Stocks for Facings	2 10 0	" delivered
Flettons	1 4 6	" at railway depôt.
Best Fareham Red	3 12 0	" " "
Best Red Pressed Ruabon Facing	5 0 0	" " "
Best Blue Pressed Staffordshire	3 15 0	" " "
Do. Bullnose	4 0 0	" " "
Best Stourbridge Fire Bricks	3 14 0	" " "
GLAZED BRICKS.		
Best White and Ivory Glazed Stretchers	10 7 6	" " "
Headers	9 17 6	" " "
Quoins, Bullnose, and Flats	13 17 6	" " "
Double Stretchers	15 17 6	" " "
Double Headers	12 17 6	" " "
One Side and two Ends	16 17 6	" " "
Two Sides and one End	17 17 6	" " "
Splays and Squints	15 7 6	" " "
Best Dipped Salt Glazed Stretchers	10 7 6	" " "
Headers	9 17 6	" " "
Quoins, Bullnose, and Flats	13 17 6	" " "
Double Stretchers	15 17 6	" " "
Double Headers	12 17 6	" " "
One Side and two Ends	16 17 6	" " "
Two Sides and one End	17 17 6	" " "
Splays and Squints	15 7 6	" " "
Second Quality White and Dipped Salt Glazed	1 5 0	" less than best.

	s. d.	
Thames and Pit Sand	6 6	per yard, delivered.
Thames Ballast	5 0	" "
Best Portland Cement	28 0	per ton, "
Best Ground Blue Lias Lime	19 0	" "

NOTE.—The cement or lime is exclusive of the ordinary charge for sacks.

Grey Stone Lime ..... 11s. 6d. per yard, delivered.
Stourbridge Fireclay in sacks 27s. 0d. per ton at rly. dpt.

STONE.

	s. d.	
BATH STONE—delivered on road waggons, Paddington Depôt	1 6½	per ft. cube.
Do. do. delivered on road waggons, Nine Elms Depôt	1 8½	" "
PORTLAND STONE (20 ft. average)—Brown Whitbed, delivered on road waggons, Paddington Depôt, Nine Elms Depôt, or Pimlico Wharf	2 1	" "
White Basebed, delivered on road waggons, Paddington Depôt, Nine Elms Depôt, or Pimlico Wharf	2 2½	" "

	s. d.	
Ancaster in blocks	1 10	per ft. cube, deld. rly. dep.
Beer "	1 6	" "
Greenshill "	1 10	" "
Darley Dale in blocks	2 4	" "
Red Corsehill "	2 2	" "
Closeburn Red Freestone	2 0	" "
Red Mansfield "	2 4	" "

YORK STONE—*Robin Hood Quality.*

	s. d.	
Scappled random blocks	2 10	per ft. cube, deld. rly. dep.
6 in. sawn two sides landings to sizes (under 40 ft. super.)	2 3	per ft. super. "
6 in. rubbed two sides ditto, ditto	2 6	" "
3 in. sawn two sides slabs (random sizes)	0 11½	" "
2 in. to 2½ in. sawn one side slabs (random sizes)	0 7½	" "
1½ in. to 2 in. ditto, ditto	0 6	" "
Scappled random blocks	3 0	per ft. cube. "
6 in. sawn two sides landings to sizes (under 40 ft. super.)	2 8	per ft. super. "
6 in. rubbed two sides ditto	3 0	" "
3 in. sawn two sides slabs (random sizes)	1 2	" "
2 in. self-faced random flags	0 5	" "

SLATES.

In. In.	£ s. d.	
20×10 best blue Bangor	13 2 6	per 1000 of 1200 at r.d.
20×12 " "	13 17 6	" "
20×10 first quality "	13 0 0	" "
20×12 " "	13 15 0	" "
16×8 " "	7 5 0	" "
22×10 best blue Portmadoc	12 12 6	" "
16×8 " "	6 12 6	" "
20×10 best Eureka unfading green	15 17 6	" "
20×12 " "	18 7 6	" "
18×10 " "	13 5 0	" "
16×8 " "	10 5 0	" "
20×10 permanent green	11 12 6	" "
18×10 " "	9 12 6	" "
16×8 " "	6 12 6	" "

TILES.

	s. d.	
Best plain red roofing tiles	42 0	per 1000 at rly. dep.
Hip and Valley tiles	3 7	per doz. "
Best Broseley tiles	50 0	per 1000 "
Do. Ornamental tiles	52 6	" "
Hip and Valley tiles	4 0	per doz. "
Best Ruabon red, brown, or brindled do. (Edwards)	57 6	per 1000 "
Do. Ornamental do.	60 0	" "
Hip tiles	4 0	per doz. "
Valley tiles	3 0	" "
Best Red or Mottled Staffordshire do. (Peakes)	51 9	per 1000 "
Do. Ornamental do.	54 6	" "
Hip tiles	4 1	per doz. "
Valley tiles	3 8	" "
Best "Rosemary" brand plain tiles	48 0	per 1000 "
Best Ornamental tiles	50 0	" "
Hip tiles	4 0	per doz. "
Valley tiles	3 8	" "
Best "Hartshill" brand plain tiles, sand-faced	50 0	per 1000 "
Do. pressed	47 6	" "
Do. Ornamental do.	50 0	" "
Hip tiles	4 0	per doz. "
Valley tiles	3 6	" "
Staffordshire (Hanley) Reds or Brindled tiles	42 6	per 1000 "
Hand-made sand-faced	45 0	" "
Hip tiles	4 0	per doz. "
Valley tiles	3 6	" "

WOOD.

BUILDING WOOD.	At per standard. £ s. d.	£ s. d.
Deals: best 3 in. by 11 in. and 4 in. by 9 in. and 11 in.	13 10 0	... 15 0 0
Deals: best 3 by 9	13 0 0	... 14 0 0
Battens: best 2½ in. by 7 in. and 8 in., and 3 in. by 7 in. and 8 in.	11 0 0	... 12 0 0
Battens: best 2½ by 6 and 3 by 6	0 10 0	less than 7 in. and 8 in.
Deals: seconds	1 0 0	less than best.
Battens: seconds	0 10 0	"
2 in. by 4 in. and 2 in. by 6 in.	9 0 0	... 10 0 0
2 in. by 4½ in. and 2 in. by 5 in.	8 10 0	... 9 10 0
Foreign Sawn Boards— 1 in. and 1¼ in. by 7 in.	0 10 0	more than battens.
¼ in.	1 0 0	"
Fir timber: best middling Danzig or Memel (average specification)	At per load of 50 ft. 4 10 0	... 5 0 0
Seconds	4 0 0	... 4 10 0
Small timber (8 in. to 10 in.)	3 12 6	... 3 15 0
Small timber (6 in. to 8 in.)	3 0 0	... 3 10 0
Swedish balks	2 10 0	... 3 0 0
Pitch-pine timber (30 ft. average)	4 0 0	... 4 15 0

JOINERS' WOOD.	At per standard. £ s. d.	£ s. d.
White Sea: first yellow deals, 3 in. by 11 in.	24 0 0	... 25 0 0
3 in. by 9 in.	22 0 0	... 23 0 0
Battens 2½ in. and 3 in. by 7 in.	16 10 0	... 18 0 0
Second yellow deals, 3 in. by 11 in.	18 10 0	... 20 0 0
3 in. by 9 in.	17 10 0	... 19 0 0
Battens, 2½ in. and 3 in. by 7 in.	13 10 0	... 14 10 0
Third yellow deals, 3 in. by 11 in. and 9 in.	13 10 0	... 15 0 0
Battens, 2½ in. and 3 in. by 7 in.	11 0 0	... 12 0 0
Petersburg: first yellow deals, 3 in. by 11 in.	21 0 0	... 22 10 0
Do. 3 in. by 9 in.	18 0 0	... 19 10 0
Battens	13 10 0	... 15 0 0
Second yellow deals, 3 in. by 11 in.	16 0 0	... 17 0 0
Do. 3 in. by 9 in.	14 10 0	... 16 0 0
Battens	11 0 0	... 12 10 0
Third yellow deals, 3 in. by 11 in.	13 0 0	... 14 0 0
Do. 3 in. by 9 in.	12 10 0	... 14 0 0
Battens	10 0 0	... 11 0 0
White Sea and Petersburg— First white deals, 3 in. by 11 in.	14 10 0	... 15 10 0
" " 3 in. by 9 in.	13 10 0	... 14 0 0
Battens	11 0 0	... 12 0 0
Second white deals, 3 in. by 11 in.	13 10 0	... 14 10 0
" " 3 in. by 9 in.	12 10 0	... 13 10 0
Battens	10 0 0	... 11 0 0
Pitch-pine: deals	18 0 0	... 21 0 0
Under 2 in. thick extra	0 10 0	... 1 0 0
Yellow pine—First, regular sizes	44 0 0	upwards.
Oddments	32 0 0	"
Seconds, regular sizes	33 0 0	"
Oddments	28 0 0	"
Kauri Pine—Planks, per ft. cube	0 3 6	... 0 5 0
Danzig and Stettin Oak logs— Large, per ft. cube	0 3 0	... 0 3 9
Small " "	0 2 6	... 0 2 6
Wainscot Oak Logs, per ft. cube	0 5 6	... 0 6 0
Dry Wainscot Oak, per ft. sup. as inch	0 0 8½	... 0 0 9½
¼ in. do. do	0 0 7	... —
Dry Mahogany—Honduras, Tabasco, per ft. super. as inch	0 0 9	... 0 1 0
Selected, Figury, per ft. super. as inch	0 1 6	... 0 2 6
Dry Walnut, American, per ft. super. as inch	0 0 10	... 0 1 0
Teak per load	17 0 0	... 22 0 0
American Whitewood Planks, per ft. cube	0 4 0	... 0 5 0

WOOD (*continued*).

JOINERS' WOOD (*continued*)— Prepared Flooring, etc.—	Per square. £ s. d.	£ s. d.
1 in. by 7 in. yellow, planed and shot	0 13 6	... 0 17 0
1 in. by 7 in. yellow, planed and matched	0 14 0	... 0 18 0
1¼ in. by 7 in. yellow, planed and matched	0 16 0	... 1 0 0
1 in. by 7 in. white, planed and shot	0 12 0	... 0 14 6
1 in. by 7 in. white, planed and matched	0 12 6	... 0 15 0
1¼ in. by 7 in. white, planed and matched	0 15 0	... 0 16 6
⅞ in. by 7 in. yellow matched and beaded or V-jointed brds.	0 11 0	... 0 13 6
1 in. by 7 in. " "	0 14 0	... 0 18 0
⅞ in. by 7 in. white " "	0 10 0	... 0 11 6
1 in. by 7 in. " "	0 12 9	... 0 15 0

6 in. at 6d. to 9d. per square less than 7 in.

JOISTS, GIRDERS, &c.

	In London, or delivered Railway Vans, per ton. £ s. d.	£ s. d.
Rolled Steel Joists, ordinary sections	7 0 0	... 7 10 0
Compound Girders, ordinary sections	9 0 0	... 10 0 0
Steel Compound Stanchions	11 0 0	... 12 0 0
Angles, Tees, and Channels, ordinary sections	9 0 0	... 10 0 0
Flitch Plates	9 0 0	... 9 10 0
Cast Iron Columns and Stanchions including ordinary patterns	7 10 0	... 8 10 0

METALS.

	Per ton, in London. £ s. d.	£ s. d.
IRON— Common Bars	8 10 0	... 9 0 0
Staffordshire Crown Bars, good merchant quality	8 15 0	... 9 5 0
Staffordshire "Marked Bars"	10 10 0	... —
Mild Steel Bars	8 15 0	... 9 5 0
Hoop Iron, basis price	9 5 0	... 9 10 0
" " Galvanised	17 0 0	... —

(*And upwards, according to size and gauge.)

Sheet Iron, Black— Ordinary sizes to 20 g.	9 15 0	... —
" " 24 g.	10 15 0	... —
" " 26 g.	12 5 0	... —
Sheet Iron, Galvanised, flat, ordinary quality— Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.	15 0 0	... —
Ordinary sizes to 22 g. and 24 g.	15 10 0	... —
" " 26 g.	16 10 0	... —
Sheet Iron, Galvanised, flat, best quality— Ordinary sizes to 20 g.	18 0 0	... —
" " 22 g. and 24 g.	18 10 0	... —
" " 26 g.	20 0 0	... —
Galvanised Corrugated Sheets— Ordinary sizes, 6 ft. to 8 ft. 20 g.	14 10 0	... —
" " 22 g. and 24 g.	14 15 0	... —
" " 26 g.	16 5 0	... —
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker	12 0 0	... —
Best Soft Steel Sheets, 22 g. & 24 g.	13 0 0	... —
" " " 26 g.	15 0 0	... —
Cut Nails, 3 in. to 6 in.	10 10 0	... 11 0 0

(Under 3 in., usual trade extras.)

LEAD, &c.	Per ton, in London £ s. d.	£ s. d.
LEAD—Sheet, English, 3lb. and up.	16 15 0	... —
Pipe in coils	17 5 0	... —
Soil pipe	19 5 0	... —
Compo pipe	20 5 0	... —
ZINC—Sheet— Vielle Montagne	27 5 0	... —
Silesian	27 0 0	... —
COPPER— Strong sheet per lb.	0 1 0	... —
Thin "	0 1 1	... —
Copper nails "	0 0 10	... —
Copper wire "	0 0 10	... —
BRASS— Strong Sheet "	0 0 11	... —
Thin "	0 1 0	... —
TIN—English Ingots "	0 1 4	... —
SOLDER—Plumbers' "	0 0 6½	... —
Tinmen's "	0 0 9	... —
Blowpipe "	0 0 11	... —

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.

15 oz. thirds	2½d.	per ft. delivered.
" fourths	1½d.	" "
21 oz. thirds	3d.	" "
" fourths	2½d.	" "
26 oz. thirds	4d.	" "
" fourths	3d.	" "
32 oz. thirds	4½d.	" "
" fourths	4½d.	" "
Fluted Sheet, 15 oz	3½d.	" "
" 21 oz.	4½d.	" "

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.

¼ Hartley's	2½d.	per ft. delivered.
⅛ "	2⅝d.	" "
½ "	2⅝d.	" "
Figured, Oxford Rolled and "Oceanic" Glass, white	3½d.	" "
" " tinted	5d.	" "

OILS, &c.		£ s. d.
Raw Linseed Oil in pipes	per gallon	0 2 3
" " ,, in barrels	"	0 2 4
" " ,, in drums	"	0 2 7
Boiled ,, ,, in barrels	"	0 2 7
" " ,, in drums	"	0 2 10
Turpentine in barrels	"	0 3 5
" in drums	"	0 3 7
Genuine Ground English White Lead	per ton	20 0 0
Red Lead, Dry	"	19 10 0
Best Linseed Oil Putty	per cwt.	0 7 0
Stockholm Tar	per barrel	1 12 0

1909.

er square.

d.	£ s. d.
6 ...	0 17 6
0 ...	0 13 0
0 ...	1 0 0
0 ...	0 14 6
6 ...	0 15 0
0 ...	0 16 6
0 ...	0 13 6
0 ...	0 18 0
0 ...	0 11 6
9 ...	0 15 0

an 7 in.

, or delivered
ans, per ton.

d.	£ s. d.
) ...	7 10 0
) ...	10 0 0
) ...	12 0 0
) ...	10 0 0
) ...	9 10 0
) ...	8 10 0

n, in London.

d.	£ s. d.
) ...	9 0 0
) ...	9 5 0
) ...	—
) ...	9 5 0
) ...	9 10 0
) ...	—

l gauge.)

) ...	—
) ...	—
) ...	—

uty—

...	—
...	—
...	—
...	—
...	—
...	—
...	—
...	—
...	—
...	—
...	—
...	—
...	—
...	—
...	—
..	11 0 0

.)

n, in London

...	—
...	—
...	—
...	—
...	—
...	—
...	—
...	—
...	—
...	—
...	—
...	—
...	—
...	—

TES OF

ft. delivered.	
"	
"	
"	
"	
"	
"	
"	
"	
"	

ATES OF

t. delivered.	
"	
"	
"	
"	

	£ s. d.
llon	0 2 3
	0 2 4
	0 2 7
	0 2 7
	0 2 10
	0 3 5
	0 3 7
on	20 0 0
	19 10 0
wt.	0 7 0
rrel	1 13 0